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Eliakim Howard
his Book

AN

EASY WAY

TO PROLONG

LIFE,

BY A LITTLE ATTENTION TO

WHAT WE EAT AND DRINK.

CONTAINING

A CHEMICAL ANALYSIS; or, an ENQUIRY into the NATURE and PROPERTIES of all kinds of FOOD; how far they are wholesome, and agree with the different Constitutions.

WITH

SOME DIRECTIONS RESPECTING OUR WAY OF LIVING.

Collected from the AUTHORITIES *of some of our ablest* PHYSICIANS.

BY A *MEDICAL GENTLEMAN.*

THE FOURTH EDITION IMPROVED.

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MDCCXCVI.

AN

EASY WAY

TO PROLONG

LIFE.

HEALTH being the greateſt bleſſing upon earth, it is natural to imagine, we ſhould be ſtudious to preſerve it; and yet, if we take a view of the actions and conduct of mankind in general, we are led to ſuppoſe that it is not the greateſt good. Inſtead of paying any regard to it, we frequently indulge our appetites, at the expence of our conſtitutions. The human body is a piece of mechaniſm, that requires care and attention. It may be compared to clock-work, which, if not kept free from duſt and other extraneous, injurious ſubſtances, will preſently be out of order. Life is, generally ſpeaking, ſhortened or prolonged, according to the care we take of it.

In the firſt age of the world, the life of man was nearly a thouſand years; but after the flood, it was abreviated to half its length. Three generations later, it was reduced to one fourth of its original term, and man ſeldom lived above two hundred years. About the time of Moſes, it became ſhorter ſtill, commonly not exceeding one hundred and twenty years, and now, it is reduced to little more than half *that* period.

But, though we find this gradual declenſion in the ſeveral ages of the world; yet we muſt underſtand, that it it was not *equally* ſo in all parts, at the ſame time; for difference of climate, and difference of living, cauſed a difference in the length of life. Hence, ſome of the inhabitants of the earth lived three times or four times as long as others.

Now, why the days of man ſhould be thus ſhortened, and his term of life ſo much reduced, is an object worth our enquiry; and, if we compare the manner of our living now, with that of the firſt age of the world, we ſhall ſee evident reaſons for it; every generation having more and more, impaired its conſtitution by a

degenerate

degenerate courſe of living, incompatible with the laws of nature. And as we muſt of neceſſity, admit of hereditary infirmities, we have reaſon to expect, (unleſs by great reformation of the injurious cuſtoms of later ages) that life in future will be ſhorter ſtill.

'Tis true, there is another rational cauſe, namely, that when the number of men upon the earth was ſmall, it was neceſſary their life ſhould be prolonged, for the purpoſes of population; but as they increaſed, this became no longer neceſſary, and the wiſdom of the Creator found it requiſite to ſhorten their days, leſt the earth ſhould be overſtocked. For were men to live nine hundred years now, with the preſent encreaſe of the ſpecies, there could not be proviſion for one tenth part of their number. But, notwithſtanding this, it is a matter of melancholy conſideration, to think, how much longer a man *might* live, with temperance, than he does at preſent; and how ſoon the gratification of a little momentary pleaſure hurries him out of life, perhaps to the deſtruction of his family, and the loſs of happineſs hereafter.

In the infancy of the world, man ſought only after the neceſſary requiſites of his being, and was contented with that competent ſubſiſtence, which nature required, but, in proceſs of time, he grew diſſatisfied with the bare neceſſaries of life, (that wholeſome proviſion that would have greatly prolonged it,) and hunted after variety and exceſs, to pleaſe and gratify a ſenſual appetite. Thus, one age taught another to be irregular and *diſordered*, dictated new inventions to ſucceeding generations, and tranſmitted their ruined practices to the following ages to imitate and compleat.

Hinc illæ lachrymæ !—After this manner, and by ſuch means, is the life of man beſet by innumerable infirmities and diſeaſes: hus, is he cut off, before he is well aware of it.

Now, it is natural for man to covet length of life, we have reaſon to ſuppoſe, he will be glad to pay ſome attention to thoſe things, that will either prolong or ſhorten it ; and, as length of life depends upon health, health is the principal thing to be conſidered.

The practice of phyſic was anciently diſtributed into three branches ; the firſt

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of which was confined to ſurgery ; the ſecond, to the adminiſtration of internal remedies ; the laſt, to a due regulation of diet. The two former have, in no age, received more uſeful improvement than in the preſent. But, it is greatly to be doubted, whether or not an attention has been paid to the latter, in proportion to its dignity and importance.

Many are the cauſes of ill health, but the principal one is the variety and exceſs of food. To this then, at preſent, we ſhall turn our enquiries. But, before we proceed, it may not be unneceſſary to give the reader ſome little inſight into the nature of digeſtion and the properties of food in general.

When food is thrown down into a healthy ſtomach, it naturally diſſolves and ferments, it being a natural property of the ſtomach to produce fermentation. The aliment being diſſolved and fermented, is again rendered ſolid by the juices of the ſtomach ; and the nutritive fluid being expelled from the ſolid part, is paſſed into the inteſtines, where it is abſorbed by certain veſſels that open into them, and is converted into blood. The remaining part

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of the food, being retained in the ſtomach, during this proceſs, is afterwards evacuated. But this fermentation in the body is not exactly ſimilar to fermentations out of the body; as, in fermentations out of the body, the air contained in the ſubſtances fermenting is let out, which may be found by experiment; but, this is not the caſe in healthy perſons and in proper food, within the body; fermentation there takes place without any extrication of air. In weak ſtomachs, indeed, and in the digeſting of ſome particular foods, extrication of air will often ſo diſtend the ſtomach, as to occaſion flatulencies and pain; but this is always irregular and unnatural.

Now, if ſuch extrication of air ſhould happen, or the food we take be ſuch as will not, in the ſtomach, readily diſſolve, ferment, become ſolid, or re-diſſolve; or, in ſhort, if it be ſuch as ſhall, in any way, reſiſt the powers of the ſtomach, digeſtion will be imperfect, and the whole ſyſtem diſordered; it being only ſuch part of the food as is digeſted, that nouriſhes the body.

If the digeſtive powers of the ſtomach be weak, natural fermentation will not take place, but ſuch fermentation as we obſerve

obſerve in flour, when mixt with yeſt, that is, the air in the ſubſtances we eat will be extricated; and ſometimes to ſuch a degree as to diſtend the ſtomach greatly, and bring on, what is called wind, belchings and pain. In this caſe vegetables will turn acid, and meat will putrify, before either of them are paſſed from the ſtomach. This occaſions heart-burn, a certain ſign of indigeſtion; and, if this weakneſs of the ſtomach continues, and putrefaction runs to a great height, ſickneſs, vomiting, and purging will be the conſequence, and ſometimes fever. Now, ſhould any quantity of this putrid food be abſorbed by the veſſels, and, in its paſſage thro' the body, be carried into the blood, it will weaken the whole ſyſtem, and, if not timely prevented, bring on ſuch a general putrefaction of the blood, &c. as to prove fatal.

If what we eat, be of hard digeſtion, that is, ſuch as will not readily diſſolve, break down or ferment in the ſtomach, either owing to the nature of the food, its hard texture, or the weakneſs of our digeſtive organs, it will remain too long, before it be paſſed off, and produce a ſenſe

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of weight, fullneſs, oppreſſion and cold; as is the caſe with ſalted meats in weak ſtomachs. 'Tis the ſame, if it will not rediſſolve, after it is coagulated or become ſolid.

So again, if it be too eaſy of digeſtion; that is, if it be ſuch as will not remain long enough in the ſtomach, owing either to its want of tendency to become ſolid again after it is diſſolved; or to the ſtrength of the ſtomach preventing it; the nutritive part will not have time to ſeparate, and the body will not be nouriſhed.

Further, it muſt be obſerved that circulation is carried on by a contraction of the heart, driving the blood from its cavities into the blood veſſels, which, immediately on receiving it, contract likewiſe, and impel it on, thro' the whole round of the ſyſtem, to the heart again. Now, if the heart and veſſels contract too quick, or with too much force, it occaſions a ſtrong, quick pulſe and fever, and will often throw the blood in ſuch quantities upon the brain, which is a tender, delicate part, as to bring on Stupor, Apoplexy, delirium, and death: and, it is the property of ſome ſubſtances to ſtimulate or encreaſe this action of the

heart

heart and veſſels; and of others, to diminiſh it. Food of a viſcid, clammy nature, glary, like the white of an egg, will adhere to the ſides of the ſtomach, and, by ſo doing, throw the blood, from other parts of the body, in ſuch quantities upon the brain, as to oppreſs it, and ſometimes occaſion apoplexy. How this is brought about, is unknown, but experience ſhews us that it is ſo.

Perſons have been ſo diſordered by eating muſcles, which are of a viſcid nature, that, without ſome timely aſſiſtance, they would have died. In theſe caſes, the head ſwells, the face becomes of a black red, the eyes are ready to ſtart from their ſockets, and a ſtupor ſucceeds; but by adminiſtering a vomit, and making the ſtomach diſcharge its contents, and by opening the jugular vein, the patient has ſometimes recovered.

From hence it appears, that ſome kinds of food are wholeſome, others unwholeſome, and that there is none univerſally proper. It muſt be adapted to the conſtitution.

Now, there is a period in the life of man, in which the organs of digeſtion are

weak,

weak, and yet, at the ſame time, there is a neceſſity for much nouriſhment. This period is infancy; for, as at this time, the body increaſes faſt, much nouriſhment is required to help and forward the growth: milk being naturally provided, and therefore probably adapted to it, we may ſuppoſe it to be a food of eaſy digeſtion and conſiderable nouriſhment. Examining then the properties of milk, will give us ſome inſight into the nature of food in general.

Milk is not a ſimple ſubſtance; it is a mixture of three; namely, coagulable matter, expreſſed oil, and ſugar. Coagulable matter is that which will unite, and become ſolid, leaving the reſt thinner and more fluid, *viz.* the curd; and expreſſed oil is ſuch as can be procured from any ſubſtance by preſſing, as oil of almonds, olives, and the like, by expreſſed oil, in milk we underſtand the cream.

The moſt ſimple food, then, does not appear to be the eaſieſt of digeſtion; if it was, we ſhould have expected that milk would have conſiſted of one ſubſtance only.

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That the coagulable matter is capable of affording conſiderable nouriſhment, may be gathered from our experiencing that animal mucilage nouriſhes the moſt; mucilage being that ſubſtance which has ſufficient moiſture to keep it together; as, for example,—ſound, good meat.

This coagulable matter, in milk, is fluid indeed when taken, but there is a juice peculiar to the ſtomach, very different from an acid, that renders it ſolid. We find the ſtomach of a calf, though cleared of every thing that is acid, to have this property. An infuſion of a few grains of the inner coat will coagulate or curdle ſeveral quarts of milk.

With reſpect to cheeſe, for we ſhall not have a better opportunity to mention it, it has, in general, a coſtive quality; but it differs, in proportion to the quantity of oil, in the coagulable part. The more rich, oily parts there are in cheeſe, the more nutritive it is and ſoluble: that is, the readier it will digeſt; the leaner the cheeſe, the more difficultly it digeſts.—Cheeſe is liable to become rank and putrid, we muſt then conſider it as having all the effects of animal food, when advanced

to putrefaction ; at this time it ceaſes to be nutritive, and can only be conſidered as an aſſiſtant to digeſtion. Cheeſe, indeed, as food, is only fit for the laborious and robuſt.

Having mentioned cheeſe, let us ſay a word or two upon butter. A quantity of pure cream eaten, is undoubtedly unwholſome ; being, from its diſpoſition to get acid and rancid, very difficult of digeſtion; but, in the form of butter, it may be uſed with advantage. 'Tis a ſtrong nutriment, fit to accompany our vegetable diet, eſpecially ſuch vegetables as are naturally dry of themſelves ; in this caſe, it gives them the properties of rich, oily ſubſtances.— But, to return,

It appears then that milk, and of courſe all other food, muſt become ſolid in the ſtomach, and, after that, undergo a freſh change, that is, be rediſſolved, for digeſtion ; for which purpoſe, it muſt remain ſome time there, before it be paſſed off.

Now, that the expreſſed oil, which is the cream, helps digeſtion, is evident from milk's not digeſting ſo well when it has been ſkimmed, the curd being harder ; for the cream and the ſugar, being mixed with

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the curd, ſeparate the different parts of it more from one another, ſo that the natural fluid of the ſtomach will penetrate the eaſier, and fermentation go on the better.* And as to ſugar, it, being from its nature more apt to ferment, will of courſe facilitate digeſtion.

That expreſſed oil affords much nouriſhment, we find from men and animals being able to live a long time upon nuts, almonds, *&c.* ſuch containing a quantity of this oil. But, expreſſed oil alone produces ſenſe of weight on the ſtomach, owing to a relaxation it brings on, preventing the ſtomach's contracting and expelling its load, and if taken in quantities, it will bring on ſickneſs.

That ſugar alſo affords great nouriſhment, is evident from animals thriving on the ſhoots of young plants, which contain a great deal of ſugar; and from ſome negroes living wholly on the ſugar cane.—But ſugar alone is viſcid, and, by adhering to the ſides of the ſtomach, will ſtimulate it

* If new milk is too rich or heavy for a child's ſtomach, let it be diluted or mixed with water; it ſhould never be ſkimmed.

it and diſorder the ſyſtem, and if diluted with any watry fluid, would be ſo thin as not to be retained in the ſtomach long enough for digeſtion, but mixed with the coagulable part of the milk, it is ſufficiently retained. Either of theſe ſubſtances alone then, *viz.* coagulable matter, expreſſed oil, or ſugar, would be *hard* of digeſtion; but blended, as in milk, they are *eaſy* of digeſtion.

Immediately after child-birth, when the milk begins to flow in the mother's breaſts, it contains a larger quantity of ſugar and water (for there is always a ſmall quantity of water) in proportion to the coagulable matter. Some months after child-birth, the coagulable matter encreaſes, and the ſugar proportionably diminiſhes. For as the infant ſtomach is weak, the ſolid part of the milk is at firſt leſs, ſo that a looſer maſs is formed, much eaſier to be diſſolved. As the child grows ſtronger, its ſtomach can bear more of this coagulable matter, and digeſts it, if it be firmer. This points out, that a young child, one of a month old, will not thrive, in general, on breaſt-milk eight or nine months old.

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We alſo learn from this, that weak ſtomachs require food of eaſy digeſtion; ſtrong ſtomachs, food of harder digeſtion. Thus, chickens, *&c.* will nouriſh people moſt, recovering from ſickneſs, and bacon *&c.* will beſt recruit a labourer.

Having thus far conſidered the properties of milk, the food nature has deſigned for the infant-ſtomach, we ſhall be able to diſcover the wholeſomeneſs of other foods, by examining *their* different properties; and we will begin with vegetables.

The vegetable ſubſtances capable of nouriſhing are as follow:

1. Farrinaceous matter, or flour. This is generally contained in grain; but ſometimes we find it in the ſtems of plants, and ſometimes in their roots.

2. Vegetable mucilage: as for example, gum-arabic, *&c.* That this is capable of nouriſhing, is evident from whole caravans living on it, for a long time, when they can procure no other food.

3. Sugar.

4. Expreſſed oils. And,

5. Native vegetable acid; or the juice of ſour fruits, which tends to take off the putreſcency of animal food: that is, to pre-

vent meat from corrupting, while it continues in the ſtomach.

For animal food, without a mixture of vegetable, is apt to continue too long in the ſtomach, before it ferments. In this caſe, it will ſometimes begin to putrify before it is paſſed off, which putrefaction getting into the blood, will often bring on a putrefaction of all the fluids of the body. This is a complete ſea-ſcurvy, which, if not timely remedied, always terminates dreadfully. Salting proviſions makes them harder of digeſtion; and though it prevents meat from corrupting ſoon out of the body; yet, as the ſalt ſeldom if ever penetrates ſufficiently into the ſubſtance of the meat, ſo as totally to ſecure it againſt putrefaction, when in the body, if it is not immediately made to ferment, by the addition of vegetable food, or ſome vegetable acid thrown in with it, it will be apt to putrify before it digeſts, and contaminate the whole ſyſtem. Hence we ſee, how liable mariners are, on a voyage, where there is a ſcarcity of vegetables, to be afflicted with the ſcurvy, and how ſoon they get rid of that diſorder, when they once get on ſhore again, to the free uſe of herbs and roots. Now,

Now, theſe five vegetable ſubſtances, we have mentioned, go naturally through fermentation, and are converted into blood.

With reſpect to the fibres, the ſolid part of vegetables, we find them frequently paſs through the body without being altered. As for example, peas and ſkins of gooſberries, currants, *&c.* Now, as the texture of the ſtrongeſt tendons of animal food is conſtantly deſtroyed in their paſſage through the body, while ſuch parts of vegetable food ſhall be evacuated as they were taken in, it is a queſtion whether theſe laſt were digeſted? If any of them are, it muſt be ſuch only as are young and tender.

But to return. Farrinaceous matter is contained in the ſeeds of all vegetables; but in many, it is ſo mixed with other ſubſtances, as to be unfit for uſe. Thus, we find it in peas, beans, *&c.* but in too ſmall quantities for the purpoſes of life.

So again, we meet with it in nuts; as walnuts, cheſnuts, almonds, filberds, common nuts, *&c.* But theſe contain too much oil to be wholeſome for common food. Beſides, they yield a bitteriſh, aſtringent matter, which adds to their unwholeſomeneſs. Bitter almonds, acorns, *&c.* which

contain

contain a great deal of this matter, are more unwholeſome ſtill. The oil, contained in nuts, will often give a ſenſe of weight in the ſtomach, and ſtimulate the ſyſtem during digeſtion, eſpecially when eaten raw. Beſides, the farrinaceous matter in them has a viſcidity that renders them hurtful to the conſtitution; but roaſting them will deſtroy this viſcidity, and then they may be eaten ſafely, and will afford much nouriſhment. They may be rendered eaſier of digeſtion, by mixing them with flour. 'Tis the cocoa-nut, mixed with flour, that forms chocolate.

Farrinaceous matter is found alſo in many roots, as in patatoes, *&c.* and ſometimes in the pith of trees, as in the palm-tree.

We uſe the pith of one tree, which we make into ſago, by moiſtening it with water, beating it up, ſo as to ſeparate it from the fibrous part of the tree, drying it into a cake, and afterwards reducing it to powder. Thus, it becomes eaſy of digeſtion, and does not ſtimulate; but, ſtill, as it paſſes off too ſoon from the ſtomach, it does not afford much nouriſhment. How-

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ever, it is very proper food for weak ſtomachs ; as in fevers.

In the Eaſt, they eat rice ; in England, wheat ; in Germany, rye ; in ſome parts, oats and barley ; and in Africa, Indian wheat. This is the grain commonly uſed for food, and it appears to be well adapted to digeſtion.

Farrinaceous matter is, in its nature, ſolid capable of being diſſolved in water, and forming a jelly. If, before we diſſolve it in water, we expoſe it to heat, it coagulates or becomes ſolid ; thus, if we bake it, we convert it into bread ; after which, it will not ſo readily diſſolve. But bread diſſolved by long boiling, is leſs viſcid than a ſolution of flour would be ; and conſequently more wholeſome. Was flour uſed, with water, raw, it would be ſo viſcid as to clog and cloy the ſtomach ; we therefore prepare it to take off this viſcidity.

Flour is not apt to undergo that fermentation in the ſtomach, ſo as ſufficiently to correct the putreſcency of animal food ; we therefore ferment it firſt ; that is, we make it into bread. Another reaſon for our converting it into bread, is,

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that in fermentation, extrication of air takes place, which leaves a number of holes, making the bread ſpungy ; by which means, when eaten, it ſoaks up the fluid of the ſtomach and facilitates digeſtion.

In order to coagulate the flour, that is, make it into bread, and give it a whiteneſs, which is the nature of all coagulants to do, bakers mix with it a quantity of allum, which, if not ſo great as to give the bread a taſte, can do no harm to adults ; but a ſmall quantity will do much miſchief to infants. Panada, therefore, for children, ſhould by no means be made of bread in which any allum has been mixed. It is for this reaſon phyſicians preſcribe biſcuit-powder.

Sometimes bakers uſe whites of eggs, and ſometimes ſpirits of wine, to coagulate the flour. as in French bread ; the firſt is innocent, and the laſt evaporates during the baking, and can produce no ill effect. For if bread is not perfectly coagulated, it will ſometimes ferment a ſecond time in the ſtomach, particularly if it continues long, as in weak ſtomachs, and turn ſour ; but baking it a ſecond time will totally prevent this. Thus, ruſks and toaſted

bread

bread are often preſcribed for diſordered ſtomachs, as being leaſt liable to do miſchief; for the leaſt extrication of air in weak ſtomachs is injurious.

But farrinaceous ſeeds and roots are not ſufficient to correct the putreſcency of meat; we therefore make uſe of vegetables, that were not originally deſigned for food, namely, pot-herbs. Of theſe,

The one ſort are cabbages, colliflowers, brocoli, and all the varieties of this claſs of plants. They contain naturally a ſtimulating oil, and a bitter aſtringent juice, ſo as not to be fit for uſe; but we find this only in wild cabbages, &c. By cultivation, this oil and bitter juice are deſtroyed, and ſuch as grow in our gardens conſiſt of little more than mucilage and ſugar; and, of courſe are fit for food.

The method taken to deſtroy theſe noxious juices, is, to grow the plants, in the dark, or, with as little air as poſſible; this is done by planting them in a rich ſoil, and thus making them ſo luxuriant, that the leaves ſhall embrace one another, by which means the body of the plant grows in the dark and with little or no air.—Hence the inner leaves become white, and

are

are free from thoſe hurtful juices. The outer leaves may be eaten, but the inner ones are moſt wholeſome. So young plants are more wholeſome than old ones, as whatever of theſe juices they contain, they are not near ſo rank.

Another kind of plants we uſe, are parſley, fennel, thyme, mint, ſage, *&c.* and ſome others of the ſame kind. Theſe contain a ſtimulating oil that would be injurious to the conſtitution, if eaten in any quantity; and on that account are only uſed as condiments with a ſeaſoning to other foods. Cellery is of the ſame kind; but by earthing it up, and thus making it grow in the dark, and with little or no air, we deſtroy its noxious oil. Wild cellery, if eaten, would bliſter the mouth.

The ſeveral ſpecies of onions, garlick, ſhalots, *&c.* are of another claſs; we cannot deſtroy the oil in theſe, but by boiling.

Lettuce, endive, dandelion, *&c.* contain much opium, and when wild are very bitter and diſpoſe to ſleep, conſequently are unfit for food; but by cultivating them in rich ſoils, and covering them from light and air, by tying them up, we render them wholeſome.

Spinnage

Spinnage, beets and other plants of that kind, when wild, contain alſo a very bitter oil, ſo as not to be eatable; but by cultivation in rich ſoils they loſe this oil.

In the ſame manner aſparagus contains oil ſo ſtimulating, that, if eaten wild would bliſter the tongue; but by cultivating it in rich ground and making uſe only of the young ſhoots, we avoid this inconvenience: but we ſhall take occaſion to mention this and every other article more fully hereafter.

None of theſe plants alone afford much nouriſhment; we uſe them to correct the putreſcency of animal food, and particularly in the ſummer, as not ſtimulating.

They are apt to ferment, and turn ſour in a weak ſtomach, and in fermenting, will let looſe the air contained in them, and occaſion wind: when perſons find this, they ſhould refrain from eating them, till their ſtomach grows ſtronger; for by continuing to take down ſuch things as diſagree with them, they not only diſorder themſelves for the preſent, but will, in time, ſo injure their digeſtive organs, as to be hereafter attended with dreadful conſequences.

Peas, beans, kidney-beans, &c. are more flatulent or windy ſtill; eſpecially when eaten unripe, as is always done: ſuch perſons therefore with whom they diſagree, ſhould by no means eat them.

With reſpect to eſculent roots; theſe contain mucilage, ſugar and farrinaceous matter, that is, flour. The two laſt afford much nouriſhment, but the mucilage does little elſe than forward fermentation. The more mucilaginous and watery theſe roots are, the more apt they are to ferment and correct the putreſcency of animal food, and conſequently the fitter to be eaten in warm weather. But the more ſugar and flour they contain, the more they nouriſh.

Turnips, radiſhes, onions, &c. are equally as liable to ferment and correct putreſcency, as the herbs ſpringing from theſe roots; and as they contain a greater quantity of ſugar than their reſpective herbs they are more nutritive.

Carrots, parſneps, artichokes, Jeruſalem artichokes, &c. contain much ſugar and farrinaceous matter, but very little mucilage. Theſe are wholeſome, nutritive, and eaſy of digeſtion.

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The ſugar adds much to the nutritive quality of the farrinaceous matter in all theſe ſubſtances.

Potatoes, yams, earth-nuts, *&c.* contain flour almoſt alone, with very little ſugar, but more water than we find in farrinaceous ſeeds. However, the farrinaceous matter is the ſame in both, and is coagulable by heat. We boil them and roaſt them, to deſtroy their viſcidity.

It was but lately that theſe roots were introduced into Europe for food. They are as nutritive as wheat flour, but cannot be ſo well made into bread without a mixture of flour, as they will not readily ferment without ſome ſuch mixture. One reaſon for our not growing them ſo generally as wheat, is that they are more apt to fail in the produce. The crop is not equally certain.

It is not yet determined, whether muſhrooms are animals or vegetables. They have all the properties of animal food, and muſt be conſidered as ſuch.

FRUITS.

FRUITS contain ſugar, native vegetable acid, and mucilage; and their ſkins contain

contain more or leſs an aſtringent juice ; but ſo little of it, as not to render them unwholeſome. Nay, it is rather of ſervice, as it ſtimulates the ſtomach, cauſes it to contract ſtrongly, and thus prevents the fruit becoming acid and flatulent. The ſugar, acids and mucilage are capable of fermenting and being converted into blood. As ſugar affords more nouriſhment than any other ſubſtance, ſuch fruits as are ſweeteſt are the moſt wholeſome, *viz.* figs, grapes, *&c.*

Sugar is even more nutritive than flour, but it is ſeldom thoroughly digeſted ; being ſo very ſoluble, it paſſes off from the ſtomach before any change can take place in it, but entangled in the cells of fruit, it is retained longer in the ſtomach, ſo as to yield ſome nouriſhment. So again, it is not yet apt to ferment in the ſtomach alone, but mixed with the mucilage of fruits, fermentation readily takes place. Beſides, the acid of fruits help to correct the putreſcency of animal food.

The more diluted ſugar is, the more apt it is to ferment. Hence watry or mucilaginous fruits, with little ſugar, as gooſberies, currants, cherries, *&c.* afford but little nouriſhment, but then they tend more to correct putreſcency. Such

Such as contain much ſugar and leſs water and mucilage, are not ſo apt to ferment, conſequently are not ſo proper to correct putreſcency ; but then they are more nutritive than ſuch as contain more mucilage and water, and leſs ſugar. They afford ſo much nouriſhment, that in many countries they are uſed as food : thus, figs, dates, &c. in Portugal are eaten as common food.

By evaporating the water from fruits, that is by drying them, we leſſen their diſpoſition to ferment. conſequently, we make them leſs flatulent and more nutritive.

The fermentation of ſome fruits, in the ſtomach have, by letting looſe the air, ſometimes ſo diſtended it, as to prove fatal ; but we may correct this by adding ſugar to them or ſpices. However, ſuch as find they diſagree with them, if they value their health, ſhould refrain from eating them.

Fruits containing a great quantity of native vegetable acid, afford ſo little nouriſhment, (as lemons, oranges, &c.) that we ſeldom uſe them, but as a power acting on the ſtomach, to correct the bad properties of other food ; as will be ſhewn hereafter.

Sour fruits, eaten in autumn, have been accuſed of bringing on violent continued purgings, but without any reaſon. Indeed, ſome ſour fruits will act as purgatives, and the purging ſhall continue ; but this muſt be owing to the ſtate of the body, prediſpoſed to purge; for, we find, that when fruit purges a body, not prediſpoſed to purge, no purging continues when the fruit is evacuated. In hot ſummers, when there is great plenty of fruit, dyſenteries or continued purgings are apt to be general, but this is owing to the heat of the weather ; for perſons will be afflicted with dyſentery, who eat no fruit. In ſhort, in ſuch diſorders they counteract ; and thoſe who eat no fruit, are more apt to purge, than ſuch as do. Nay, if large quantities of fruit ſhould purge, it will not prove dangerous ; it will act no further than as a doſe of phyſic.

There is one ſpecies of fruit very different from others, namely, cucumbers, melons, *&c.* This fruit, either ripe or unripe, contains a great deal of mucilage of a particular kind. Break them in two, and you will ſee much of this mucilage ooze out, ſo as to glue the two parts firmly

ly together. Now, this mucilage prevents the other parts of the fruit from fermenting, conſequently cauſes indigeſtion, and brings on in the ſtomach a ſenſe of weight, coldneſs and ſickneſs: for though the ſubſtance be ſoft, it will not readily diſſolve. Cucumbers having been known to lie in the ſtomach three days undigeſted. We are led to uſe them in the ſummer as cooling food; but they are very injurious to the conſtitution. Beſides they contain a quantity of eſſential oil (which no other vegetable ſubſtance does) very diſagreeable and hurtful to a weak ſtomach. If they are eaten, therefore, it ſhould be with oil and pepper, as correctors of their noxious qualities. There is a natural bitter in the ſkin of the cucumber which will ſerve to digeſt it, if eaten at the ſame time: but this ſhould only be done when the cucumber is young, as it afterwards becomes injurious to the ſtomach.

Having now treated of the properties and wholeſomeneſs of vegetable food, we will proceed next to animal food; and herein we will firſt conſider the property of uſing it.

It has been given as a reaſon for not u-

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ſing animal food, that it was inconſiſtent with humanity. There can, however, be little difficulty about this, as there are a great number of animals that muſt live on animal food wholly, not being able to eat vegetable. It was therefore the intention of the Creator, that animal food ſhould be eaten. All that is to be conſidered, is whether man is that animal that is deſtined to live upon animal food. The Pythagorean doctrine, heightened by ſuperſtition, has been a means of making numbers of people, *viz.* the whole of the Gentoos, the whole empire of Hindoſtan, and part of China, larger together than France, Spain, Italy, and England, wholly abſtain from meat.

It is alſo to be obſerved, that the race of particular animals is ſeldom diminiſhed, though we deſtroy many of them; the increaſe of animals being much below what *might* be propagated. One man, and one woman might, in the nature of things, have thirty children; but, in general, they may have ten, five boys and five girls. At every generation, then, were men propagated to the utmoſt, they could increaſe in number five times; ſo that, in a very

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ſhort time, a nation muſt become exceedingly populous. It is the difficulty of procuring food, and obtaining the neceſſaries and conveniences of life that prevents this propagation: a proof of the ſuperintendency of Providence. Now, as it is in man, ſo is it in other animals. It is poſſible for a ſow to bring forth ten pigs at every litter, ſo that were this ſpecies propagated to the utmoſt, in a few years, the increaſe would be prodigious. Tenfold in one year, and a thouſand-fold in ten years. Here alſo the difficulty of obtaining food prevents increaſe; there being always a deſire of propagation between the ſexes.

This is more evident, if we obſerve the great increaſe of rats in a granary, where they multiply in proportion to the quantity of corn there lodged.

Theſe things conſidered, we may readily ſee, that in deſtroying annually a number of any one ſpecies of animals, ſo far from diminiſhing that ſpecies, we ſhall rather increaſe it, as in ſuch a caſe, we ſhall be anxious ſo to do. So by ſending a number of inhabitants out of a country, we do not depopulate that country, unleſs we exceed a certain bounds. Animals

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then living on one another, is the means of increaſing animal life conſiderably: there can be, therefore, no reaſon why animal food ſhould not be uſed. Let us examine then, whether this food be proper.

Moſt quadrupeds are confined naturally to particular climates, and moſt of them, in their organs of digeſtion, fitted for animal and vegetable food. Some have it only in their power to obtain animal food, and ſome only vegetable; but man ſeems deſtined to cover the whole face of the earth; no climate being yet diſcovered unfit for *his* reſidence. His powers are fitted for animal as well as vegetable food, and its digeſtive organs equally adapted to both. And, if we conſider mankind in their moſt ſimple ſtate, where they are moſt guided by inſtinct, we find as many ſhepherds and hunters living on animal food, as huſbandmen living on vegetable

Animals deſtined to live on animal food, have their inteſtinal canal ſhorter than ſuch as live on vegetable food. That is (in order to be underſtood by ſuch as are unacquainted with phyſical terms) have leſs length of gut. And as longer retention in the ſtomach is required for animal

food

food than for vegetable, and man's digeſtive organs are adapted to this, it appears that man is deſtined to live equally on animal food, as vegetable. Further, the teeth of man are a medium between the teeth of carniverous animals, and thoſe of gramenivorous. Beſides, his health is better ſupported by a mixture of the two, than it would be, was he to live upon one. The Laplanders, indeed, live nine months on rein deer, and the Greenlander lives upon fiſh: it is poſſible, therefore, to live on animal food alone. However, were we obliged to live upon one ſort wholly, it would be beſt to live on vegetable; for animal food alone, would frequently bring on diſeaſes; a mixture therefore is beſt. In ſhort, man is endowed with greater variety in his ſyſtem and conſtitution than any other animal, he being deſtined to live in all parts of the earth.

Let us next conſider the differences between animal and vegetable food. Now, as we ſaid before, fermentation which takes place in food, within the ſtomach, is different from that which takes place out of it. If the ſtomach then be weak, ſo as not to bring on fermentation natural to it,

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the fermentation that would take place out of the ſtomach, will take place in it. Hence it is that in weak ſtomachs food turns acid and putrid. This firſt occaſions heart-burn, a ſure ſign of a weak ſtomach; and if the putrefaction ſhould run to a great height the conſequence is ſickneſs, vomiting. purging. and ſometimes fever. And ſhould a ſmall quantity of ſuch putrified matter as was obſerved before be abſorbed by the veſſels in its paſſage through the body, it will depreſs the ſtrength and without a timely remedy, cauſe a general putrefaction of the fluids through the whole ſyſtem. Thus the miſchiefs of animal food putrifying are greater and more dangerous than ſuch as ariſe from undigeſted vegetable food. as this turns ſour only.

Another difference is this. Vegetable food during digeſtion ſtimulates leſs. When the ſtomach is diſtended with food, the whole ſyſtem, during digeſtion is more or leſs ſtimulated; but more ſo with animal food than with vegetable. Now the more our ſyſtem is ſtimulated the quicker is the circulation, and the more feverish we become.

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As animal food fills the blood-veſſels fuller with blood than vegetable, it naturally encreaſes our muſcular ſtrength; but then it loads the brain, (every part being fuller of blood in proportion) and occaſions heavineſs and ſtupor: whereas vegetable food, from not loading the ſyſtem with blood, rather diminiſhes muſcular ſtrength. but enables the mind to act with greater force. Vegetable food. therefore, is fitter to give clearneſs of ideas; and animal food is beſt adapted to labour. A phyſical demonſtration might be given of this; but to a general reader it would be idle. However, habit has a great effect in this caſe. Man, accuſtomed to labour, and to eat vegetable food, (as are the porters of Conſtantinople) may be capable of great muſcular exertion; but this does not prove the power of vegetable food over animal. So a horſe fed on graſs, and kept in exerciſe, will be better able to work, than one fed on hay and corn for twelve months together, without exerciſe: but this neither is any proof.

The next thing to be conſidered is, a maxim generally laid down by all authors on this ſubject; namely, that ſimplicity

of food is more conducive to health than a variety : but experience teaches us the contrary. Milk, as we before obſerved, which affords great nouriſhment, is a mixture of three nutritive ſubſtances ; and we may venture to affirm, that if an alderman was to eat as much of beef-ſteaks, as he does of other things, at a city feaſt, he would bring on ſickneſs and vomiting. Put variety of grain before a hen, and ſhe will eat of them that ſhe likes beſt ; but before the day is out, ſhe will eat of the other. Inſtinct leads her to this, as moſt conducive to her health.

Almoſt all food contains oil, and the ſtomach can better bear a variety of this oil, than a quantity of one particular ſort. Beſides, animal and vegetable food correct the ill qualities of one another. Animal food corrects the flatulency of vegetable ; and vegetable food, the putreſcency of animal. Indeed, a mixture of ſome foods will diſagree, as fiſh and milk ; fiſh coagulating milk too firmly for eaſy digeſtion ; but there is no rule without an exception.

The miſchief of variety of food is its tempting us to eat too much : but, if we

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avoid eating too much, variety is beſt, provided that variety conſiſts of things eaſy of digeſtion.

But the moſt ſingular and curious circumſtance, with reſpect to food, is this. The powers of digeſtion are adapted to the want of blood in the blood-veſſels. If they are not ſufficiently full for the purpoſes of health, the appetite is great, digeſtion is ſtrong, and much blood is formed; but if they are full enough, there is no appetite, digeſtion is weak, and no blood is formed. For, let a man ſwallow as much food as he can, without an appetite, though he is able to digeſt it, it will not be converted into blood. So watchful is Nature of her health.

Eating too much food, in general, for a length of time does harm. It weakens the organs of digeſtion, debilitates the conſtitution, and wears it out. Hence ariſe gout, apoplexy, and all the diſeaſes attendant on old age. In diſeaſe, men, eating too much, never eſcape with impunity.

We ſhall now proceed to the properties of the different kinds of animal food. There are two ſubſtances in meat capable

ble of nouriſhing ; mucilage and expreſſed oil.

Animal mucilages differ much from one another ; but conſidered as food, they do not. The only difference of conſequence is, as far as depends upon their texture. When the fibres of an animal are large, they are not eaſily diſſolved ; of courſe, they are difficult of digeſtion. Beef is, on this account, more difficult, of digeſtion than mutton ; the fibres of the one being larger than thoſe of the other. On the ſame principles, when food is coagulated firmly, it is alſo difficult of digeſtion. The firmer the coagulum, that is, the leſs fluid it contains, the more difficult it will be of digeſtion. Animal food, whoſe fibres have but little fluid between them, that is, dry meat, is more indigeſtible than moiſt. Thus, lean animals are harder of digeſtion than fat ones ; and the lean part of fat meat is eaſier of digeſtion than the lean part of lean meat. By the ſame way of reaſoning, meat roaſted or boiled a great deal, is not ſo digeſtible as when roaſted or boiled but little ; for when the fluids are expelled by heat, the fibres approach cloſer to each other, and, when in the ſto-

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mach, will not admit the juice of the ſtomach ſo readily to penetrate it, conſequently, fermentation will not take place ſo ſoon.

The readier animal food diſſolves in water, the more digeſtible it is. A flounder boiled in an equal quantity of water, is ſooner diſſolved than mutton; therefore flounders are eaſier of digeſtion than mutton; the juice of the ſtomach being little elſe than warm water, helped by fermentation. But fiſh, though readily ſoluble in water, has a property in it that renders it indigeſtible, which is a certain glarineſs or viſcidity; but when the ſtomach is ſtrong enough to digeſt it, it is eaſier of digeſtion than either fleſh or fowl.

Meat apt to putrify, is ſooner digeſted, than ſuch as is not. Pigeon will putrify ſooner than duck: of courſe, pigeon is eaſier of digeſtion than duck. Now, as the fluids of animal food tend to haſten putrefaction, by depriving it of thoſe fluids, by long boiling or roaſting, we render it harder of digeſtion. By boiling meat till it be free from gravy, we can keep it from corrupting for ſix months. A further proof that meat much dreſſed, is leſs whole-

ſome than ſuch as is little dreſſed. Such meats, however, as putrify the ſooneſt, are injurious to weak ſtomachs, as this putreſcency ſtimulates during the time of digeſtion.

It is with a view of rendering meat eaſier of digeſtion, that we keep it ſometime after it is killed before we eat it. As ſoon as meat is killed it begins to putrify ; and putrefaction is the moſt effectual breaker down of animal ſubſtance, and a great aſſiſtance to ſolution, which is the immediate forerunner of digeſtion. But the length of time meat ought to be kept, ſhould be proportioned to its tendency to putrify, and the heat of the weather. It is eaten, for example, much ſooner in ſummer than in winter.

But the property in which means differ moſt, is their viſcidity or glarineſs. Such as are viſcid adhere to the ſides of the ſtomach, and ſtimulate much. In quadrupeds, young animals have this property, ſuch as veal, pig, fawn, and lamb ; but in a ſmaller degree. Young birds have the ſame bad property, and all fiſh, in a great degree ; particularly ſhell-fiſh, which, on this account, has often proved poiſonous

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and fatal to many. When theſe have proved fatal, it has been aſcribed to the copper veſſel in which they were dreſſed; but a little obſervation would ſhew the contrary. When perſons loſe their lives by the ill effects of copper ſickneſs, vomiting, and purging take place: but when poiſoned by ſhell-fiſh, the head ſwells, the breaſt is oppreſſed, and ſtupor is the conſequence.

Animal food diſſolved in water, forms a gelatinous ſolution or jelly, which is of a viſcid nature, and in ſome degree, produces the ſame effect as viſcid foods. It ſtimulates, but does not yield much nouriſhment. At the ſame time, it is difficult of digeſtion, and of courſe, improper to be taken by diſeaſed or weak ſtomachs. Jellies tho' long preſcribed to ſtrengthen the ſyſtem after a fever, have lately been found prejudicial, and the uſe of them are therefore exploded.

Eſſential oils, inherent in ſome animal food, render it difficult of digeſtion. The eſſential oils of vegetables are often agreeable to the ſtomach, and ſtimulate it ſo as to forward digeſtion; but thoſe of animal food, though agreeable to the taſte, are injurious. Pork, geeſe, ducks, ſalmon, &c. contain

contain much of this oil, and are of courſe, high-flavoured. They may be agreeable to the taſte of ſtrong ſtomachs, but if eaten in too great quantities, or if the ſtomach be too weak, they will diſagree with it, and have the ſame effect with viſcidity; that is, they will ſtimulate the ſyſtem, and ſometimes bring on a fever. Animal food, then, that is viſcid, contains much eſſential oil, or will not readily diſſolve, is apt to remain too long in the ſtomach, and do harm. But that which will readily putrify and diſſolve, is retained but a ſhort time in the ſtomach; and is, of courſe, eaſily digeſted: for digeſtion depending on the contraction of the ſtomach, if the ſtomach be ſo diſordered as to loſe any of its contractile powers, either by the oil or viſcidity of the food, the food will be retained too long in it.

We ſeldom uſe animal food without ſome preparation. Thoſe preparations are either expoſing it to ſuch heat as will coagulate the ſolids and fluids, or after ſuch coagulation, diſſolving it in water. By coagulating any animal ſolid we take off that viſcidity which almoſt all have when raw, and the ſtomach conſequently

bears

bears it much better. Thus we can digeſt twice the quantity of oyſters roaſted, that we can raw.

In coagulating animal ſubſtances by heat, we often expoſe them to a great fire, as in roaſting; which coagulates the outer parts, forming a cruſt, as it were, round the inward fluids, and retaining them. This gives them an empyreumatic oil, offenſive to the ſmell. In boiling, we avoid this empyreumatic oil, but then we take out the eſſential oil. In frying, we retain both oils, ſo that fried meat is more difficult of digeſtion than either roaſted or boiled.

Chicken, patridges, veal, &c. are more wholeſome when roaſted, than boiled. Mutton, beef, pork, &c. are eaſier digeſted when boiled.

All quadrupeds that feed on vegetables are uſed, ſomewhere or other, for food; ſuch as the ox, the ſheep, the deer, the goat, the hog, the hare, &c. In ſome countries, horſes are eaten; in others, ſquirrels, rats and mice. Animals that live on animal food alone, are ſeldom eaten; as the lion, the cat, the tyger, &c. Few make uſe of dogs, or any animals of that

that claſs ; thoſe who do, feed them on vegetables. Such animals as live on animal food alone, being, on account of their putreſcency, and of the great quantity of eſſential oil contained in them, both diſagreeable to the ſtomach, and difficult of digeſtion.

Birds alſo are made uſe of for food, except birds of prey ; that is, ſuch as live on other birds ; and we except them for the ſame reaſons that we do beaſts of prey. We prefer ſuch as live on inſects to ſuch as feed on fiſh, becauſe they are tenderer, ſuch as live on fiſh acquiring a toughneſs.

All fiſh have been eaten, and all ſhell-fiſh which have a ſufficient muſcular fleſh to render them worth eating.

Thoſe birds that are not very putreſcent in their nature, and are moſt free from eſſential oil, are the eaſieſt of digeſtion. As for example, moor-game, poultry, partridges, pheaſants, &c. and of quadrupeds, the deer, the ſheep, the ox, &c. The older animals of this claſs are eaſier of digeſtion than the young ones. Mutton, for inſtance, is eaſier of digeſtion than lamb ; beef than veal ; veniſon than fawn ; and that on account of the viſcidity

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of the flesh of young animals. Fish is more difficult of digestion than flesh, especially in weak stomachs. And of fish, those that have least flavour, that is, such as have least essential oil in them, are white, and have some degree of firmness, will digest much sooner than such as are of stronger flavour. Flounders, whitings, &c. are easier of digestion than salmon, soals, &c.

But still, quadrupeds afford more nourishment than either birds or fish; and those animals of stronger flavour, *viz.* pork, geese, duck, salmon, &c. afford more nourishment and are fitter for such as labour or take a great deal of exercise, than animals of the same class, that are easier of digestion.

Now to correct the ill qualities of the different kind of food, and to assist digestion, we make use of a variety of things, such as are called the decoraments of the table; which in themselves afford little or no nourishment. These are spices, acids, salt, oil, and sugar.

Spices act as stimulants. It must here be recollected, that digestion depends upon the contracting power of the stomach, it being that which prevents the food turning

ing acid or putrid. Now if the action of the ſtomach be weak, that is not ſufficiently powerful, food will not be properly digeſted.

Spices then are powerful ſtimulants, that is, they increaſe the action of the ſtomach, and are agreeable to it; ſuch as the aromatic ſpices, *viz.* cinnamon, cloves, nutmeg, mace, pimento, &c. which are the produce of the warmer climates; but they are, at the ſame time inflammatory, tending to increaſe the circulation of the blood, and bring on fever. We uſe muſtard, onions, horſe-radiſh, &c. for the ſame purpoſe. Theſe ſtimulate univerſally, but are not inflammatory; becauſe their powers do not continue long; whereas ſpices ſtimulate for a conſiderable length of time. Mint, thyme, ſage, &c. parſley, fennel, celery, &c. are ſtimulants, but not ſo powerful as muſtard, onions, &c. nor are they inflammatory.

Spices ſeem adapted to different climates, and different ſtomachs. In warm climates, and weak ſtomachs, ſpices are more wholeſome than in colder climates, and ſtronger ſtomachs. In warm climates, the heat of the atmoſphere upon the ſkin keeps up

conſtant

conſtant great circulation there. The internal blood-veſſels are, of courſe, empty, and the interior parts conſequently weaker, *viz.* the ſtomach, &c. It requires therefore more powerful ſtimulants to aſſiſt digeſtion, and the natural weakneſs of the ſtomach prevents their inflammatory power. Hence, we may obſerve, that ſpices are more wholeſome in ſummer than in winter; and that perſons of luxurious life, who live without exerciſe, whoſe ſtomachs are of courſe, weakened and impaired, may eat them with greater ſafety than ſuch as are ſtrong, laborious, and healthful.

In colder climates, and with temperate livers, the ſtomach is naturally ſtrong: very little ſtimulants, therefore, are required. Inflammatory ones, muſt of courſe do miſchief. If any, then, are uſed, it ſhould be thoſe of the ſecond claſs, *viz.* muſtard, onions, horſe-radiſh, &c. Nature ſeems here to have provided for herſelf; for we find ſpices only in warm countries: none grow naturally in cold ones. But the ſecond claſs are principally natives of cold climates. If any of the ſpices are made to grow in a cold climate, part of

their ſtimulus is loſt: and if the ſecond claſs of ſtimulants are made to grow in a warm climate, it is the ſame. Pepper grown here loſes its ſtimulating powers; and an onion grown in Spain, is not ſo ſtrong as one, the produce of England. They ſeem deſtined then for particular climates. In hot countries, therefore, ſpices are neceſſary; but in colder ones they are prejudicial. If the ſtomach then be weak, which, in time, will diſorder the ſyſtem, it may be proper, to uſe ſpices, but, if not weak, on no account to uſe them: for they have ſometimes done ſo much harm as totally, to deſtroy digeſtion, unleſs great quantities have been conſtantly thrown in with the food. A little ſpice, uſed with the more flatulent vegetables, is frequently, ſerviceable, as by encreaſing the action of the ſtomach, it brings on digeſtion, before that fermentation takes place, which in weak ſtomachs, would be attended with extrication of air. Thus, we uſe pepper with greens, peas, &c. to correct what is called their windineſs; and we uſe pepper with broth, to coagulate the fluid more firmly, and correct its putreſcency, both which are brought about with the action

of

of the ſtomach. Lemon-juice, barley, &c. is often added to both, for the ſame purpoſe. So we eat muſtard with ſalted pork and beef, ſalted fiſh, &c. in order to aſſiſt digeſtion, by encreaſing the action of the ſtomach : ſalted proviſions beiug more difficult of digeſtion than ſuch as are freſh.

The ſecond claſs of ſubſtances to aſſiſt digeſtion are acids. None but the native vegetable acid, *viz.* the juice of ſour fruits. is capable of affording nouriſhment; nor would this, if pure ; it is owing to the mucilage mixed with it, that it nouriſhes. Acids then *aſſiſt* digeſtion merely.

Acids produce many effects. In the firſt place they ſtimulate the glands of the ſtomach, creating by their ſtimulus that ſenſation we call hunger. Digeſtion being conſiderably affected by the appetite ; if there is no appetite, though the ſtomach be ſtroug, there will be no digeſtion. We frequently then employ acids, a little before meals, to create an appetite. Thus, in hot countries, where, owing to an increaſed circulation in the ſkin, the internal circulation is diminiſhed,and, of courſe the ſtomach weakened, the inhabitants accultom themſelves to the drinking of bev-

erage

erage or lemonade before dinner, to encreaſe their appetite.

Acids alſo promote ſecretion of the glands of the ſtomach, ſo as to ſupply the food with a watry menſtruum ; that is, a fluid proper and ſufficient to promote fermentation.

They act alſo as ſedatives or quicters of the reſt of the ſyſtem, taking off that ſtimulus occaſioned by digeſtion. Hence they are beneficial in warm climates, and in weather where the heat naturally ſtimulates the ſyſtem, and that ſtimulus is liable to be increaſed by digeſtion. Hence, as was ſaid before, fruit is exceedingly wholeſome in the ſummer, and at certain times, if taken in moderate quantities.

Acids tend likewiſe to coagulate animal ſolids and fluids ; and, aſſiſted by the coagulating fluids of the ſtomach, they take off the viſcidity of food. Thus we uſe lemon or vinegar with fiſh, particularly ſhell-fiſh. Indeed, ſhell-fiſh ſhould never be eaten without ſome acid ; they being, as was before obſerved, in their nature ſo remarkably viſcid, and, of courſe, prejudicial to the conſtitution. It is for the ſame reaſon, that we uſe acids with veal,

lamb,

lamb, and all young animals ; namely, to correct their viſcidity. Of all acids, vinegar, provided we attend to its quality, is the ſafeſt.

Acids check alſo vinous and acetous fermentation ; that is, ſuch fermentation as ſhould by no means take place in the ſtomach. It is for this reaſon we uſe them with ſubſtances of looſe texture, that are apt to turn ſour in the ſtomach, and become flatulent or windy. Thus we eat vinegar with ſallad, and greens of all ſorts. So, in all weak ſtomachs, where food is apt to turn ſour, and cauſe heart-burn, the uſe of acids has been found to correct and take it off. It is on this account, that fruit has been introduced after meals. Acids then are uſeful for many purpoſes in digeſtion ; but taken in too great quantities, they are hurtful, as they will produce a diſpoſition to flatulency, pain, and weakneſs, in the ſtomach and bowels, which is afterwards cured with difficulty.

The next ſubſtance, in general uſe with food, is ſalt, which affords no kind of nouriſhment ; neither will it digeſt, but paſſes through the body without any change. It is, however, univerſally uſed where it can

be got ; nay, all animals prefer food that is ſaltiſh to ſuch as is not. This general inſtinct, we ſhould ſuppoſe, would not be given, but to ſome purpoſe ; yet it is difficult to ſay of what uſe ſalt is, in digeſtion. It ſtimulates the glands of the ſtomach, and promotes ſecretion of the watry menſtruum ; but of what other uſe it is, we know not.

We often preſerve food with ſalt ; and thus preſerved, it is conſiderably more difficult of digeſtion. The fibres are hardened, they are not ſo readily diſſolved, and they go through the proper fermentation of the ſtomach with difficulty. Thus it is, that we cannot live ſo long on ſalted proviſion as on freſh ; for, as we before obſerved, the ſalt does not penetrate thoroughly into all parts of the meat ; therefore, when in the ſtomach, before fermentation takes place in the outer parts. the inner will putrify, and, by infecting the fluids of the body. bring on the ſcurvy, as we ſee it does. in perſons upon a long voyage. And yet ſalt may be uſed. in the greateſt quantity, ſo as to prevent putrefaction of food, without rendering it totally unfit for nouriſhment.

Oil

Oil is another ſubſtance that may be uſed to help digeſtion, it taking off the viſcidity of food. Hence it is that we eat ſallad, with which oil has been mixed, with the meat of young animals, as with veal, lamb, &c. and (with ſome kinds of fiſh) which, from its glarineſs, tends much to diſturb digeſtion. Oil alſo takes off the diſpoſition in looſe vegetables to ferment improperly, and thus prevents flatulency. It is for this reaſon, we uſe it with ſallads, greens, &c. But oil, in weak ſtomachs diſpoſed to acidity, is apt to produce ſourneſs in the ſtomach, and bring on heartburn, ſickneſs, vomiting, and purging. Why it ſhould have theſe contrary effects, we cannot ſay; but experience ſhews it to be true.

Sugar is another aſſiſtant of digeſtion, by preventing the bad effects of ſome food, and affords conſiderable nouriſhment itſelf. A diluted ſolution ferments more readily than a more centrated one; that is the more water you put to ſugar, provided you exceed not certain bounds, the more readily it ferments. Sugar mixed with a certain quantity of water, preſently becomes vinegar. Now, the looſer vegetables and

fruits,

fruits, ſuch as ſallad, currants, cherries, &c. contain in them a more diluted ſolution of ſugar than the firmer vegetables, or the ſweeter fruits. It is on this account, that we frequently eat ſugar with them. Another reaſon why we eat ſugar with ſuch vegetables, is to take off the aceſency and flatulency which they are apt to run ſoon into, by rendering them more difficult to ferment. Sugar alſo corrects the putreſcency of animal food; but not ſo much as vegetables do. For this purpoſe, it was much uſed in England, before kichen-gardens became general.

It is not above 150 years ſince greens and other vegetables were imported from Holland, (a kitchen-garden being then a great curioſity.) Salted meat at that time, was much eaten; and the ſea-ſcurvy very general. Perſons were then accuſtomed to eat ſugared mutton and ſugared ham. At preſent the cuſtom is not ſo much aboliſhed, but that we eat ſweet ſauces with various kinds of food.

Sugar has been ſaid to ſpoil the teeth*.

Their

* It is a well known fact that refined loaf ſugar contains a conſiderable quantity of lime,

and

This obſervation may, in ſome caſes, be juſt: as, where the teeth may have a more than ordinary degree of ſenſibility; or it may, perhaps, by ſticking about them, and turning acid, corrode them; but faults of this kind are oftener imputed to it than it deſerves. Preſerves are far from unwholeſome,—and pickles may be conſidered as ſpunges filled with vinegar.

Having thus entered into the ſeveral properties of eatables, let us now proceed to drinks.

Water is neceſſary to digeſtion and nouriſhment. For there are ſalts conſtantly forming in the blood, beſides ſuch as are thrown into it by the ſtomach: whoever has accidently taſted their own blood, will be

and he that doubts whether lime will deſtroy bone of any kind may eaſily aſcertain the fact, by experiment. The natives of Savu, an iſland in the Indian ſeas not far from Batavia, accuſtom themſelves to chew beetle, which they mix with a kind of white lime made of coral ſtone and ſhells. This compoſition makes the teeth not only as black as charcoal, but as rotten too, corroding them as ruſt does iron; a proof that lime, or any ſubſtance containing lime, is pernicious to the teeth.

be convinced of this, by its ſaline taſte. There is always alſo, a ſmall part of the blood, in ſome degree, putrifying. Now, if theſe ſalts and this putreſcency were accumulated to any great degree, it would prove fatal. Water, then, is neceſſary to waſh away theſe ſalts, and this putreſcency. Beſides, the ſaliva and natural juice of the ſtomach is not ſufficient of themſelves to diſſolve the aliment, and carry on fermentation. Water then is a great aſſiſtant. But pure water is not ſo proper for either of theſe purpoſes ; for water will run off too ſoon ; that is, it will not remain mixed with the food long enough to go through fermentation with it ; neither will it alone carry off the putreſcent or ſaline ſubſtance in the blood. Mixing mucilaginous matter with it, as in wine, beer, cyder, &c. enables it to anſwer theſe purpoſes. Thus, we ſee the ſaliva or ſpittle which nature provides, is a viſcid fluid, or a mucilaginous one.

Wine, being in a ſtate of fermentation itſelf, tends to forward fermentation in the ſtomach. For any ſubſtance going through one fermentation generally forwards fermentation in another. Accordingly

dingly we find perſons, accuſtomed to drink weak wine, cannot digeſt their food with water alone, but will have eruptions on the ſkin, during the time that their meats is in the ſtomach. Beſides, wine is as neceſſary to a weak ſtomach as ſpices; for if it be not too ſtrong nor taken in too great quantities, it ſtimulates the ſtomach, makes it contract freer, and thus forwards digeſtion. In warm climates, the inhabitants could not preſerve their health without it; the heat of the weather keeping up ſuch a circulation of the blood on the ſurface of the body, as to weaken the internal parts, and render digeſtion difficult. Accordingly we find, that nature has provided them amply with the means of procuring wine. Hence it follows, that a glaſs of wine occaſionally taken in ſummer, is more beneficial than one drank in winter; as the one helps digeſtion, while the other tends to deſtroy it.

Was man to live the life of a ſavage, water would be a ſufficient drink; as eating only a ſmall quantity, and uſing great exerciſe, his digeſtive organs would be much ſtronger, and ſufficient for digeſtion without any other aſſiſtance: but according to

his

his preſent method of living, eating daily too much, and taking little exerciſe, he requires wine. However, the wine ſhould be diluted with water; for was it to intoxicate to any degree, it would overthrow the deſign for which it was taken, prevent the ſtomach from eating ſufficiently, and interrupt digeſtion going on. By wine here, we mean all vinous liquors, as wine, cyder, ale, ſmall beer, &c.

If we drink pure water, it will find its way out of the body by urine or ſweat, without carrying any of the ſaline, or putreſcent parts of the blood with it; but if we uſe mucilaginous fluids, as wine, beer, &c. they remain ſome time in the blood, mix with the ſaline and putreſcent ſubſtances of it, and gradually carry them off. Water then, is the neceſſary drink, but it is much helped by brewing; that is, wine, beer, &c. if moderately taken, as we have mentioned, is the beſt liquor we can uſe.

Having ſaid ſo much upon the nature of digeſtion, and the property of food in general, let us run over them again a little more particularly; and firſt, let us ſpeak of fruits.

Stone-fruits, in general, are of a ſoft lax texture,

texture. and their juices dilute ; by which means. they are eaſily diſſolved in the ſtomach. It is for this reaſon ; they are apt to be eaten in large quantities. Hence as they are more liable to fermentation than any other. and produce a copious acid, they are apt to irritate the inteſtines and bring on purging and vomiting. Apricots and peaches are leſs noxious than either the cherry or the plumb being ſweeter and richer ; the later fruit is. in general the richeſt.

Apples and pears being of a firmer texture. and containing a leſs active acid. are not ſo liable to a noxious fermentation as the ſtone-fruits. and will continue longer in the ſtomach ; and of theſe. pears are more wholeſome than apples ; for the pear being ſpecially heavier than water. will ſink to the bottom of the ſtomach, and be ſooner digeſted ; while apples, ſwimming near the top will elude the action of the inteſtines. and by irritating the left orifice of the ſtomach will often produce uneaſy ſymptoms.

Strawberries and raſberries are of a very tender texture ; therefore eaſily diſſolved, paſſing off before a very active fermentation can take place, which is likewiſe

prevented by their ſweetneſs. On all theſe accounts, they are very innocent.

Currants are an acid fruit; have very little ſweetneſs; of courſe very little nouriſhment, and are liable to all the bad qualities of ſtone-fruits.

Gooſberries are much ſweeter, more nouriſhing, and more innocent; and without the huſks, are very eaſily digeſted; and on account of their ſweetneſs, leſs ſubject to active fermentation.

Grapes are a richer fruit, containing a great quantity of ſugar, on which account they are more nutritive than any we have mentioned; and if eaten when perfectly ripe, and in moderation, are innocent.

When we apply heat to theſe fruits; that is, when we bake or boil them, we change their qualities, diſſipate their active acid, and diſpoſe them leſs to ferment. Hence, univerſally, baked or boiled fruits are ſafer than freſh. It is to deſtroy their diſpoſition to fermentation that we frequently eat them with milk or cream, whoſe oily nature produces that effect. Wine is alſo uſed to obviate the bad effects of fruit; but this depends upon its ſpirituous part, and therefore pure ſpirit,

were

were it not otherwiſe noxious, would be moſt eligible. If wine be uſed, it ſhould be ſtrong and mellow. Another method of uſing them is with ſugar. This ſurely renders fruit more nutritive; and to four fruits, muſt be a judicious addition. Sometimes we uſe oily matters; as butter in apple-pye. This, from its anti-fermentative quality, is a proper addition; but in weak ſtomachs, is apt to produce heart-burn, &c. It is ſafer to eat the mild fruit, before meals; the four fruits, after.

We come next to the herbs. Beet & ſpinnage are watery and inſipid; they contain but little ſugar or mucilaginous matter; and, of courſe, afford but little nouriſhment. On account of their little acidity and looſe texture, they are leſs flatulent than ſome of the other herbs.

Dandelion, endive, lettuce, are all of them milky plants; and it is almoſt a univerſal rule, that thoſe which afford a milky juice, are remarkably acrid, and many of them poiſonous; but theſe I have mentioned have been excepted; however, they are all opiates, in ſome meaſure, when old; for this reaſon, we only uſe them when very young, and we blanch them to

free

free them of their their acrimony, which is done by tying them up, and thus depriving them of light. They are flatulent; and, as ſuch, ſhould be never eaten without pepper, or ſomething to anſwer the ſame purpoſe.

Cellery contains a poiſonous acrimony; on which account, it is blanched for uſe, though it is never wholly deprived of its acrimony in this way; boiling does it more effectually, and gives it a mucilaginous ſweetneſs; conſequently, it is moſt wholeſome in broths, and that in the ſummer when the ſtomach can bear ſtimulating moſt.

Aſparagus is only wholeſome when in an intermediate ſtate, between root and plant: when old, it is remarkably acrid; but when young, it is ſweet and mucilaginous.

Artichokes, if young and boiled, are of a tender texture, eaſily digeſted, and not flatulent. They are ſweet, and of courſe, remarkably nutricious.

Muſhrooms are very nutritive, and much a-kin to animal food; that is, they reſemble meat in their properties; and as ſuch may be eaten by ſtrong perſons in conſiderable.

able quantities. The morelle and truffe are of this kind: but on account of their ſtimulating powers, are more uſed as a faſhionable ornament to our diſhes, than as any proper food.

The next to be conſidered, are our eſculent roots. The raddiſh, as being ſo acrid, is uſed only as ſallad, or after meals to help digeſtion. It is moſt wholeſome when ſcraped. The turnep is, at beſt, when deprived of its acrid rind, but a watry weak nutriment, very flatulent, or windy; and, if eaten in great quantities, will purge.

The carrot and parſnip, from the ſweet mucilaginous matter contained in them, are very nouriſhing; but the carrot more than the parſnip, as containing the greateſt quantity of the two.

The leek, the onion, and the garlic, are in their recent ſtate, acrid but innocent. When by age or climate, this acrimony is too great, we do not uſe them as food. When boiled, this acrimony is deſtroyed, and a remarkable mild ſubſtance remains, very nutritious, eſpecially to thoſe who can digeſt them raw.

But of all the culinary herbs, potatoes are the beſt; they, containing a kind of

flour, are, on that account, very nouriſhing, and leſs flatulent, than any, conſequently very wholeſome. The more mealy they are the better.

The next in order are peas, beans, French beans, &c. they contain a degree of oil and ſugar mixed, conſequently afford pure and ſtrong nouriſhment, as appear from experiments made on domeſtic animals, *viz.* hogs, &c. But, as they are of firm texture, and not eaſily digeſted. their uſe in food ſhould be confined to the hardy and roburſt. They are more flatulent than moſt vegetables, therefore improper aliment for weak ſtomachs. When eaten young. before they come to be ripe, they are indeed leſs flatulent on account of their not having attained the oil they afterwards gain; but then their nutriment is proportionably diminiſhed. French beans being eaten in their cod are not ſo flatulent as the other two, and peas either ripe or not, being of a more tender and ſoluble texture than beans, are not ſo often eaten. The pea is uſed for culinary purpoſes, as puddings, *&c. &c.*

So much for vegetable food; let us now conſider the particular ſorts of animal.

And

And firſt, with reſpect to beef and veal. Were we purely to conſider tenderneſs of texture, the youngeſt animals certainly would be always preferred; but when we talk of them as nouriſhing food, beef is, for the reaſons I have mentioned, more nutritive than veal: for when an animal is very young, we commonly have an averſion to it. The whole of it then is, as it were, a ſemi-fluid maſs, which we cannot take, in ſufficient quantity; and which, from its watry conſiſtence, muſt be but little nutritious. It is the ſame with reſpect to mutton and lamb, veniſon and fawn, pork and pig, &c. Mutton has commonly been preferred to all the fleſhes of quadrupeds; and indeed, beſides its being more perfect, has the advantage over them of being more generally ſuited to different climates. Beef requires a very nice intermediate ſtate, rich paſtures and temperate air; which it ſeems to enjoy chiefly in this country: whereas ſheep can be brought to almoſt the ſame perfection in the bleak northern, as in theſe mild ſouthern countries.

Hare being an animal much exerciſed,

acquires

acquires a firmneſs of fibres, and is difficult of digeſtion ; and when killed, after a long chaſe, when much of the oil of the body is abſorded, its muſcular parts are much firmer and tougher than when killed in the ſeat. The rabbit, being of very little exerciſe is one of the white meats, without viſcidity, and is one of the lighteſt and moſt digeſtible foods in uſe.

With reſpect to the hog ; it, being the only domeſtic animal we know, of no uſe to men when alive : is therefore properly deſigned for food. Beſides, as loathſome and ugly to every human eye, it is killed without reluctance. Pork is of very tender ſtructure, encreaſed, perhaps, from a peculiarity in its nature, *viz.* taking in fat more readily than any other animal. Pork is a white meat, even in its adult ſtate, and then gives out a jelly in very great quantities ; and on account of its tenderneſs, &c. is very nutritious.

The next claſs of animal food, is that of birds ; of which there are ſeveral kinds. The cock, hen, chicken, and capon, are entirely domeſtic, there being no country in which they are found wild. They take little exerciſe, and live moſtly on vegeta-

bles ;

bles; hence they are food of a tender ſtructure, eaſy of digeſtion, and, as a white meat, gelatinous. When very young, they are extremely viſcid; when old, tough and ligamentous: ſo that the proper time of uſing them is in a middle ſtate, between theſe two extremes; that is, when about a year old. Such as eat them younger, eat them when unwholeſome. Now, a barn-door fowl is far preferable to one that is crammed; as exerciſe is neceſſary to give perfection; for by this means the fat of the animal is equally diſperſed through the muſcular parts; whereas, when the bird is fatted haſtily, the fat is accumulated in particular parts.

Turkies are of the ſame kind with the cock, hen, &c. equally tender, and equally eaſy of digeſtion. With reſpect to wild fowl; ſuch as the pheaſant, the grouſe, the partridge, and the quail, they approach in their nature to the tame fowl: but are of a higher flavour, are more tender, and rather eaſier of digeſtion.

We come next to water-fowl. Of theſe, the duck, both wild and tame, contains a great deal of eſſential oil, and will not ſo readily digeſt in the ſtomach. However, the

the wild duck, from its being much exerciſed, being generally carnivorous, is more ſoluble than the tame duck, and, of courſe, eaſier digeſted. The tame gooſe is manifeſtly leſs viſcid than the duck, but is of a firmer texture. Digeſtion, with regard to this bird, is not ſo conſtant ; it depending on the diſpoſition of the ſtomach. But the teal, though much of the nature of the wild duck, is the moſt tender and ſavoury, the leaſt viſcid, and the moſt wholeſome of this kind.

The next claſs of aquatics, are the woodcock, ſnipe, the grey and the green plover, &c. of which the woodcock and ſnipe, although they live chiefly on inſects, are of a tender ſtructure, approaching to the white meats of the cock and hen.

I have given the reader to underſtand, that exerciſe produces firmneſs. An opportunity now offers to illuſtrate it. The woodcock is obliged to fly much about, while the partridge walks more and flies leſs. Hence, it is obſerved, that the wing of the woodcock is always very tough, while that of the partridge is very tender ; and, on the contrary, the leg of the woodcock is very tender, while that of the partridge

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is very tough. Hence the old doggrel diſtich:

"*If the partridge had but the woodcock's thigh,*
"*He'd be the beſt bird that e'er doth fly.*"

With reſpect to pidgeons, another claſs of birds, they are, in their nature, hot and alkaleſcent, that is, very much diſpoſed to active fermentation in the ſtomach; and perhaps, more ſo than any other bird of this kind that lives on grain. We attribute this to much exerciſe. When young, they are tender and eaſily digeſted. As to ſmaller birds, *viz.* the lark, the thruſh, &c. there is probably a difference according to their exerciſe and food, but it will be ſufficient to ſay, that, when taken at a proper age, they are tender, juicy, and wholeſome.

We have a good opportunity here to mention eggs. It is obvious, from their nature and uſe, in the nouriſhmeut of the fœtus, that they contain a larger proportion of pure nutriment than any other food. Notwithſtanding this, eggs are not of eaſy digeſtion; and from the proportion of nouriſhment they afford, cannot be eaten in any large quantity.

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We will now proceed to fiſh : but firſt let us mention the turtle, an amphibious animal, now become a great delicacy. From ſome particulars in its œconomy, from its little motion, and its living on vegetables, it is of a very gelatinous nature, and highly nutritious.

The texture of fiſh, in general is more tender than that of fleſh. They have nothing of a fibrous ſtructure like fleſh ; of courſe, they are eaſier digeſted than meat, eſpecially ſuch as are not of a viſcid nature. We have had occaſion to ſay ſomething on the different kinds of fiſh before, as indeed, we have on moſt ſorts of food : but as it is a matter in which mankind are highly concerned, it may not be unneceſſary to be a little more particular.

Thoſe of the ſalmon kind, as the ſea ſalmon, the river-trout, the ſmelt, the charr, &c. are of a tender ſubſtance, ſufficiently juicy and nouriſhing ; but like other fiſh, they are heating, and apt to breed humours in the ſkin. The ſalmon-trout is undoubtedly more ſtimulating, and leſs gelatinous than thoſe of the white kind.

The next claſs, ſuch as the barbel, the carp, the gudgeon, the tench, the chubb, the

the roach. the bleak, and the bream, is drier, and leſs tendinous; leſs ſtrong and heating; and of a nature leſs gelatinous. The perch is ſomething of this kind, of a firm texture, but tender ſubſtance, eaſily digeſted, neither glutinous, heating, or remarkably ſtimulant.

The next claſs is ſea-fiſh, and that of the whiting, the haddock, and the cod. Theſe give a gradation in tenderneſs, glutinoſity, and ſtimulus to the whole ſyſtem; the cod being the firmeſt, moſt viſcid, and moſt heating of the three.

The lump is a remarkable viſcid fiſh, approaching in quality to the eel, and exceedingly nutritious to thoſe who uſe it. The mackerel is of a drier ſubſtance, and leſs nutritious. The mullet is between the carp and the haddock; leſs dry than the one, and more juicy than the other. The pike, though rapacious and carnivorous, is dry, and, in ſome degree, oily, and one of the leaſt heating of any we take in.

Another claſs is that of the herring, the ſprat, the anchovy, and the ſhad; which are of an oily, juicy, nutritious nature, in their heating quality next to the ſalmon,

ſtimulating

ſtimulating the ſyſtem and quickening the pulſe to a conſiderable degree.

The next claſs is that of the flounder kind, *viz.* the common flounder, the ſoal, the plaiſe, the turbot, and the holibut. Theſe are all of a tender, oily, juicy nature, more viſcid than the preceding claſs; but leſs ſo than the following. They are ſet down according to their qualities; the flounder and ſoal more tender, the turbot and holibut more viſcid.

The laſt is the eel kind, as the ſand-eel, the common eel, the conger eel, &c. There are of the ſame quality with the viper, viſcid nutritious, and difficulty perſpirable; by long retention in the ſtomach, heating and oppreſſive.

With reſpect to the crab, the ſhrimp, and the lobſter, they come under the name of inſects: they are of a nature, that if boiled, will give a jellied broth, and are apt to ſtimulate the ſyſtem very much, producing heat, anxiety, and fever. As to oyſters they are nutritious, and though long retained in the ſtomach, as little heating to the ſyſtem as any. The muſcle, they ſay, is poiſonous; but where the poiſon reſides, we cannot tell: the ill effects ſometimes

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on eating them, muſt proceed from their viſcidity.

Upon the whole, we beg it may be underſtood, that what has been ſaid reſpecting foods, holds good only in general. Difference of conſtitution will produce different effects. Thus, according to the old adage, "What is one man's meat may be another man's poiſon." If perſons are ſo raſh as to determine the quality of any particular food to be good, becauſe it agrees with them, it is in vain ſaying any thing to them upon the ſubject: what is wholeſome to-day may be injurious to-morrow; and though at preſent they find no ill effects from the uſe of certain things, they may lay the foundation of diſeaſes, and unhappily experience them later in life.

But before we diſmiſs this ſubject, we muſt take notice of the uſe of coffee and tea. Much diſpute has ariſen about their virtues. One would imagine, frequent experience would long ago have ſilenced ſuch diſputes. Their effects are, undoubtedly, very much mixed, depending on the warm water. The virtues attributed to them, ſuch as aſſiſting digeſtion, relieving

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the ſtomach from a load of food, from crudities and from head achs ariſing from them, promoting the ſecretion of urine, and perhaps of perſpiration, may be all fairly attributed to the warm water. The ſame alſo will have the effect of keeping from ſleep. Tea, it is known, weakens the tone of the ſtomach, by frequent uſe; debiliates the ſyſtem, in conſequence, and brings on tremors and convulſions. The ſame effects are not ſo remarkable in coffee; but ſtill experience ſhews them to be of the ſame nature. Coffee contains a great quantity of oil, of a binding quality, that corrects putrefaction. It is found to moderate fermentation in the ſtomach, and to be a powerful quieter of the ſyſtem; that is, it will decreaſe the force and circulation of the blood, and take off the quickneſs and fulneſs of the pulſe; or, in other words, it will often abate a ſlight fever. For this reaſon it is recommended in a morning for a head-ach, which it will frequently remove. So far, indeed, taken medicinally, it may be uſeful; and as it aſſiſts digeſtion, one diſh may not be injurious to thoſe who ſit long after dinner, and who have ſtrong conſtitutions; but in

delicate

delicate habits, it often occaſions want of ſleep, tremors, and many of thoſe complaints called nervous. Newmann obtained by diſtillation, from 1 pound of coffee, 5 *oz.* 5 drachms and a half of water; 6 *oz.* and half a drachm of thick fœtid oil, and four ounces and two drachms of earth. In ſhort, we may conclude that coffee and tea, however their effects be varied by habit, or particular conſtitution, certainly weaken the tone of the ſyſtem, and diminiſh the force of the nervous power.

Having now treated fully of the ſeveral kinds of food, we will next conſider the quantity, time, and order, neceſſary to be obſerved in taking it: for health depends as much upon a proper attention to this, as to the food we eat. And, in this, let the palate, or inclination, be firſt conſulted. Nature has endowed the ſtomach with ſuch ſenſibility, that, in health, if ſtrictly attended to, ſhe will, in general, call ere long, for that which is proper, and reject or loath that which is improper. It is this natural longing that has frequently pointed out, in diſorders, food, which, without the aſſiſtance of medicine, has often recovered the patient. Eat then by no

means, that, for common food, which you diſlike. *Paulo pejor ſed ſuavior cibus & potus meliori ut ingrato, præferendus* Agreeable food, though it be rather worſe in quality, is preferable to that which cloys, be it ever ſo good.

In the next place, examine your ſtomach. Never eat any thing that lies heavy in it, or riſes in it, any thing that is long paſſing off, or any thing that is flatulent or windy, that occaſions belchings, heart-burn, gripes, or fluxes; theſe being ſure ſymptoms of improper digeſtion: the conſequence of which is bad. If therefore from a depraved appetite, you ſhould long for ſuch food as you experimentally find to diſagree with you, by no means indulge it. By a reſolution to withſtand ſuch temptations, we may keep off a number of diſorders: for indigeſtion is the forerunner of half the diſeaſes we are liable to.

Another thing to be conſidered, is the choice of food, whether ſuch meat as you wiſh for, be in ſeaſon or not; for that which at one time of the year is good, may, at another, be hurtful. For example, pork, during the winter, is wholeſome, but in ſummer it is not fit to be eaten.

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Our taſte will guide us in this; as much difference as there is in taſte, between a thing in ſeaſon and out of ſeaſon; ſo much is there in the goodneſs, and of courſe, in its wholeſomeneſs.

It has been long a cuſtom to keep meat a conſiderable time before we dreſs it, under a notion of its becoming more tender and eaſy of digeſtion. They ſay, when putrefaction has begun to take place in meat out of the body, it will the ſooner break down in the body. This may probably be the caſe: but what it acquires in tenderneſs, it loſes in its nutritive quality. It is not ſufficient that your meat does not ſtink, the ſpirituous part of it muſt be preſerved, that which gives lively and pure nouriſhment; meat, therefore long kept, is not ſo wholeſome as that which is freſh killed. With reſpect to digeſtion, it goes on ſufficiently ſoon in a healthy ſtomach, whether the meat be tough or tender. It is not meant to ſay that all meats are ſufficiently ſoon digeſted; it has already been ſhewn to the contrary; but what is meant, is, that in meat of the ſame kind and age, it is of no great conſequence to the eater in point of firmneſs,

neſs, whether it be tender from being long kept, or tough, from being dreſſed, when freſh killed.

Cuſtom is another thing to be conſidered in the choice of food. What we have been longeſt uſed to generally agrees beſt with us. Change of diet is apt to cauſe ſome alteration: therefore when a new diet offers itſelf, as upon change of places and countries, we ſhould at firſt be ſparing; upon further uſe we may be bolder. Nay, even, with thoſe to whom a change of diet becomes neceſſary, it ſhould be brought about by degrees. *Nulla ſubita mutatio eſt bona.* No ſudden change is good.

The next thing we ſhould ſtudy, is the quantity. Temperance and moderation in eating, is nature's great preſervative. *Plures gula quam gladius*——the throat has deſtroyed more than the ſword. Some are apt to think, the more plentifully they eat, the better they thrive, and the ſtronger they grow. But this is not the caſe. A little well digeſted, will render the body more vigorous than when it is glutted with ſuperfluity, moſt of which is turned to excrementious, not alimentary fluid,

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and muſt be ſpeedily evacuated, or ſickneſs will follow. Our ſtomach is the beſt judge in ſuch caſes. We ſhould never eat to ſatiety or fullneſs, but deſiſt with an appetite. Thus ſhall we be refreſhed, light, and cheerful; not dull, heavy, or indiſpoſed. No certain quantity of food can be preſcribed as a general rule: what is convenient to one, may be too much for another, and too little for a third. A ſtrong labouring and active perſon may eat more freely than the weak, the ſtudious, and ſedentary, or ſuch as take their eaſe: indeed, the active require greater ſupply. By our loading the ſtomach, fermentation is checked, and of courſe digeſtion impeded; for the natural juice of the ſtomach has not room to exert itſelf; it therefore naufeates its contents, and is attended with belchings; the ſpirits are clogged, obſtructions enſue, and fever is the conſequence. Hence ariſe various ill ſymptoms, and depraved effects throughout the body, enervating the ſtrength, decaying the ſenſes, hastening old age, and ſhortening of life. Tho' theſe bad effects are not inſtantly perceived, yet they are the certain attendants of intemperance; for it has been general-

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ly obſerved in great eaters, that (though from cuſtom, a ſtate of youth, and a ſtrong conſtitution, they have felt no immediate inconvenience, but have digeſted their food, ſuffered ſurfeit, and bore their immoderate diet well) if they have not been unexpectedly cut off, they have found the ſymptoms of old age come on early in life, attended with pains and innumerable diſorders. In winter, indeed, we may eat more freely than in ſummer, becauſe the ſtomach is ſtronger, for the reaſons I mentioned before, the circulation of the blood not being increaſed by the heat of the weather, on the external parts of the body: but both in winter and ſummer, we ſhould feed with moderation: and, if we value our health, ever make it a rule to riſe from table with an appetite. Should we ever be tempted to eat too much at one time, we ſhould eat the leſs at another; that is, if our dinner has been larger than ordinary, let our ſupper be the leſs, or if poſſible, none at all; for there is no man however careful of his health, that in this matter does not occaſionally tranſgreſs.

The next caution to be mentioned on this ſubject, are the hours of eating. Let

not

not the common cuſtom of meals invite you to eat, except your appetite concur with thoſe times. A ſufficient diſtance between hours of eating ſhould be ever obſerved, leſt we charge the ſtomach with a freſh ſupply, before the former be paſſed away; for if any half-digeſted matter remains to be mixed with the next meal, it frequently occaſions a foul ſtomach; beſides, the ſtomach, when empty, receives the food with delight, and will be eager and ſharp in digeſtion; and each part, as it paſſes along, wil perform its office readily and ſufficiently. However, as ſome ſtomachs will digeſt their contents ſooner than others, and if long empty, will naturally draw up from the inteſtines putred vapours, which will deſtroy the appetite, (for how often do we faſt, till we loſe our appetite?) and greatly diſturb the head and animal ſpirits; (for the head, from the great quantity of nerves ſpread upon the ſtomach, readily ſympathizes with it) on theſe accounts, let ſuch as feel a gnawing, as it is commonly called, within them, not wait till the ſtated hour of meals, but eat a little, that the ſtomach may have ſomething to work on. Hence it appears, that there

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can be no general hour of eating. Children, with craving appetites, do, and may eat often. Young perſons in health, that labour and uſe much exerciſe, may eat three-times a-day, morning, noon and night; but to ſuch as are in years, ſuch as are weak, as do no work, uſe no exerciſe, or lead a ſedentary life, eating twice in the day is ſufficient; or, perſons weak and old, may eat often, but then it ſhould be but little.

If perſons confine themſelves to two meals a day, one had better be a ſupper than a dinner, provided they ſup early; becauſe, during the hours of ſleep, the body is compoſed and at reſt, and at this time, receives its greateſt nouriſhment. But late ſuppers are very offenſive to the whole frame, eſpecially to the head and eyes, from the vapours that ariſe from a loaded ſtomach. Our food ſhould be tolerably well digeſted, before we lay down to ſleep; and this is not well done under two or three hours. Our anceſtors uſed to ſup at ſix, and go to reſt at ten. Hence they could comply with that well known advice, *After ſupper walk a mile*, in order to quicken digeſtion, and diſpoſe the body for reſt.

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We ſhould not eat preſently after exerciſe, nor when we are hot, but forbear, till the ſpirits are retired and ſettled. Neither ſhould we come to meat, burthened with care or buſineſs; for owing to the ſympathy between the brain and ſtomach, as was obſerved, by means of the nerves, a diſturbed mind will impede the functions of the ſtomach. It is for this reaſon, we eat in company, cheerfully with our friends —Mirth and good eompany are great helps to a dull ſtomach, creators of appetite, and forwarders of digeſtion: and it is for this reaſon, lively muſic has been introduced at feaſts.

We ſhould take care alſo to chew our meat well; for the ſaliva with which we thus mix it, is a great help to digeſtion; beſides, in breaking it down with the teeth, we ſave the ſtomach the trouble; to eat greedily, therefore, and ſwallow our meat haſtily, is not only indecent, but hurtful. With reſpect to drinking at meals we ſhould do it little and often, eſpecially, if our food be dry and ſolid; great draughts cauſe fluctuation, and diſturb fermentation.

Thus, having gone through the ſeveral

properties of the various kinds of food, and ſhewn how far they are wholeſome or not, and how far they agree or diſagree with different conſtitutions; in order to complete this treatiſe upon health, we ſhould proceed to conſider the articles of exerciſe, reſt, ſleep, &c. on each of which a great deal may be ſaid, but as that would ſwell theſe pages to a ſize that might probably deter the reader from a peruſal of them, it will be more political to defer it to ſome other time.

END OF PART I.

AN

EASY WAY

TO PROLONG

LIFE,

By a little ATTENTION to

Our Manner of LIVING.

Containing many ſalutary obſervations, on Exerciſe, Reſt, Sleep, Evacuations, &c.

Together with an Enquiry into the following points.

Why ſome, who are very hungry and have good appetites, eat little, while others, having little appetites, eat much ?

Whence it is that the accuſtomed hour of eating being paſſed, we often loſe our appetite ?

Whether the loſing of blood in the ſpring, be neceſſary for the preſervation of health ?

Whether the occaſional uſe of Cordials, be prejudicial to the conſtitution ?

AND

Some remarks on Drunkenneſs, ſmoaking, and on the utility of taking phyſic in the ſpring.

The SECOND PART.

By the AUTHOR of the FIRST PART

PRINTED AT DOVER.

ADVERTISEMENT.

THE rapid ſale of the firſt part of this work, and the general approbation the Public hath beſtowed upon it, has induced the author to complete his ſubject; and he perſuades himſelf the obſervations in the following pages, will be found no leſs important than thoſe in the preceeding ones.

AN

EASY WAY

TO PROLONG

LIFE.

HAVING, in the firſt part of this work, gone through the ſeveral properties of the various kinds of food, and ſhewn how far they agree or diſagree with different conſtitutions, we proceed now, according to our promiſe, in order to complete this treatiſe upon health, to conſider Exerciſe, Reſt, Excretions, &c. for let us ever be ſo obſervant of the former, unleſs we pay a careful attention to theſe, we ſhall not be able to keep ourſelves well. We ſhall treat of them, therefore in their turns, and we will begin with,

EXERCISE.

Now, in the human Syſtem, there is a certain quantity only of living power that

can be produced for the health of the body; ſo that if we exhauſt that power, we debilitate or weaken the body. A man, for example, may walk till he can walk no longer: it is, therefore neceſſary to know how far Exerciſe is ſalutary; but let us firſt conſider the great benefits procured by it.

Exerciſe encreaſes the natural heat of the body, and thus excites and dilates the ſpirits, making them far more vigorous and active.

It empties the ſtomach and promotes the appetite for the next meal; for, as in ſedentary habits, digeſtion does not quite clear the ſtomach, but leaves part of the food, which often clogs and diſturbs it; exerciſe will excite this to paſs away, and the ſtomach being thus diſcharged of thoſe relicts, the appetite ſharpens and craves food very ſtrongly. This naturally ſtrengthens the powers of the ſtomach, and we digeſt our next meal the better.

It alſo excites an expulſion of excrements, not ſuffering any ſuperfluous matter to lodge in the body.

It likewiſe opens the pores, and gives a free perſpiration, which too much reſt will

will ſhut up. Nature has appointed theſe vents, and ſecret ways of evacuation, to cleanſe the habit of the body; which in a little time would be clogged and become very fowl and impure, by an accumulation of ſuperfluous humours.

It, in the laſt place, promotes and adds greatly to the nutrition of the body. We find by experience, that active, ſtirring people, have a freſher countenance, a greater flow of ſpirits; nay their fleſh is firmer and their limbs ſtronger, than what is generally met with in perſons that lead a ſedentary, idle and ſluggiſh life; for it is a maxim univerſally known and received, that a frequent exertion of the original powers, in any one part of the body, tends to ſtrengthen that part. For example, the legs of a dancer ſhall be ſtrong and luſty, when his arms ſhall be weak and ſmall, and the arms of a blackſmith or waterman ſhall be muſcular and powerful, while their legs ſhall fall away. The reaſon of this is very evident: exerciſe circulates the blood and nutritive juices, gives them a free paſſage to all parts of the limbs ſo exerciſed, and drives off all ſuperfluous humours, that, without it, would be deſtructive. But, Such

Such exercise is to be chosen, as suits best with the nature of each person's body, some requiring exercise of the upper parts most, others of the lower parts, and some equally of both: but that is generally most advantageous, that exercises every part as dancing, fencing, riding, tennis, ringing, &c.

Now, whatever be our exercise, those whom good fortune has enabled to take it or not, would do well to attend to the following observations.

Exercise should be daily in the morning; always with an empty stomach; and if possible, after excremental evacuation; for the heat of the body, opening the vessels, may otherwise draw foul humours into the blood and occasion very dangerous obstructions. For this reason, it is not so well to take any extraordinary exercise upon a full stomach, or till the intestines are clear.*

Exercise

*Though any great exercise after meals is injurious, to walk gently is exceedingly wholesome, for, by this means, our food will descend to the bottom of the stomach, the natural heat of the body will be encreased, and digestion will go on the better. Where persons can retire

Exercise should be varied according to your constitution and the season of the year. Young, strong, robust persons, in cold weather, admit of greater exercise; old, weak and thin persons, in hot weather of less; for the fatter and grosser the body is, so much more is the natural heat diminished, and exercise more necessary to dissolve the superfluous moisture of the body, which occasions grossness, and to encrease the circulation of the blood. Circulation being naturally brisker in the summer, exercise is less needful, but more so in the winter, as the moisture of the season will sometimes occasion obstructions in the lungs and breast, which strong and laborious motion will often remove.

Exercise,

tire after meals into the sweet air, and such delightful places as exhilerate the spirits, tis right to do it. If the state of the body be such as that we cannot walk after meals, it will be right to stand up, at least, accordingly to the old verse,

"*Post pastum stabis, passu mollive meabis.*"

That is, stand up after meals, or walk gently.

Exercise, opening the pores, we should be careful not to use it in a damp air, lest we take in some of its noxious qualities, that may do us harm : neither should we expose the body, after it, lest we catch cold, but these things are so well known, that they need not be further explained.

Another necessary caution to be observed, is, that exercise be not too violent, nor continued longer than it is a pleasure ; but that we desist before we be weary, or sweat too much.

Those, who from age or infirmities are unable to take exercise, should rub their bodies, morning and evening, with flannel or coarse linen gloves. All parts must be rubbed, except the stomach and belly ; rubbing these will disturb digestion and offend the head. We may apply a warm cloth to them in the room of it. The loins of the back likewise should not be rubbed, unless we feel them cold, and then but gently, lest they should be over-heated and obstructions in the urinary passages should ensue. In this operation we should begin softly and easily, encreasing the motion and weight of our hand, as the tenderness of the skin will permit, till the flesh,

fleſh, as it were, ſwell and be ſomewhat ruddy, and then deſiſt; for too much rubbing will bring on an inflammation. Was every perſon, well or ill, to rub themſelves in this manner, one or twice a day, for a little while, they would never omit it; for they would find themſelves glow with a natural warmth, their limbs would be active and their joints ſupple. It is for this reaſon, that children are rubbed, who can take no exerciſe; and experience teaches us, that the currying and rubbing a horſe, notwithſtanding his exerciſe, is a great addition to his health. In cold and moiſt ſeaſons the head alſo ſhould be rubbed with a coarſe linen cloth, warmed.

Thus having ſet out the times for exerciſe and motion, let us now proceed to conſider

REST.

Reſt is as neceſſary to preſerve health, and continue us in ſtrength and vigour, as exerciſe. When the body is fatigued, reſt is refreſhing, and renews its ſtrength; but when ſatiated with reſt it thirſts again for motion and agreeable exerciſe. Reſt

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is a burden if forced upon nature longer than it requires. *Interdum quies, inquieta eſt*, ſays Seneca, even reſt ſometimes is irkſome. For if exerciſe is neceſſary for the preſervation of health too much inactivity muſt be prejudicial. *Ignavia corpus hebetat, labor firmat.* Sluggiſhneſs makes the mind and body dull and heavy, whereas frequent motion ſtrengthens and invigorates them.

The life of man, converſant in change, ſpends its whole courſe in ſleep and watching; the one appointed for reſt and eaſe, the other for action and labour. If he was conſtant in the firſt, his life would be only the ſhadow of death; if in the laſt he would ſoon be exhauſted. Nature therefore hath wiſely contrived, that man ſhould not long continue in either, but wear out his life between the two.

Sleep is a placid ſtate of body and mind, giving refreſhment and eaſe to both; for as an exertion of the faculties either of mind or body exhauſts our powers, reſt will reſtore thoſe powers. The powers of the mind are like a ſmall current, which is ſufficient to keep up a continual motion. If we want to give this water greater pow-

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er, we dam it up, and when the water is run from the dam, if we wiſh to produce a freſh power, equal to the firſt, we ſhut the ſluices, and collect the water again ; ſo it is with the mind, in ſleep. In perfect ſleep, both the body and mind are at reſt, excepting in thoſe particulars, where an exertion is neceſſary to life ; and in ſleep, it is that the body receives a greater degree of nutrition ; it is then digeſtion takes place in an extraordinary degree, and recruits thoſe ſpirits that were exhauſted in the courſe of the preceeding day.

Now that ſleep may prove advantageous, anſwering the intentions and deſigns of nature ; let us conſider four things concerning it. The time when it ſhould be taken ; the neceſſary limits, or quantity of ſleep required ; the ſalubrity of the place, and the poſition of the body.

The time moſt proper for ſleep is, according to the appointment of nature, the night when creation in general, takeits reſt. At the ſhutting up of the day, when the ſun gets below the horizon ; the ſpirits are not ſo active and lively but incline to a ceſſation. Tis then they return to the centre of the body and apply themſelves to

what is called concoction ; that is they return to perform their vital operations to nourish and refresh the system. For during the heat of the day, they are dilated and extended to the external or circumferent parts. Hence, we find, that, towards midnight, unless we are in exercise, put on another garment, or encrease the heat of the room, we always find ourselves chilly. In the morning again, at the rising of the sun, our spirits are naturally fresh, brisk and active. If we therefore, prevert the order of nature, turn day into night. by keeping late hours, and laying in bed, all the morning, we do that which is greatly destructive to our constitution. For as sleep naturally draws the animal heat inwards and the heat of the sun counteracts this power by drawing it outwards; sleeping in the day is resisting of nature, which must be prejudicial to the health of the body. Sleeping in the day, therefore, is a bad custom, particularly for fat, corpulent people ; but if the spirits be fatigued with care or business or by reason of old age, weakness of nature, extreme hot weather, labour, or the like ; then moderate day-sleep is a good refreshment, but take

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it rather ſitting than lying down, becauſe the head will be leſs offended with the riſing vapours. Neither ſhould it be taken immediately after dinner, but an hour or half an hour after, at leaſt ; and between dinner and our nap, it would be prudent to walk a little. Thus will our food deſcend better into the ſtomach and be leſs liable to affect the head. Neither ſhould this afternoon's nap be longer than half an hour, or an hour at moſt, leſt the animal heat ſhould be ſo collected from the outward parts, as to cauſe a heavineſs in the head : neither ſhould it be taken in a hot place, but in one cool rather, eſpecially in ſummer time, as ſhall hereafter be ſhewn.

Sitting up late is one of the great deſtroyers of the conſtitution ; it tires and waſtes the animal ſpirits, by keeping them too long upon duty ; weakens nature, haſtens on the effects of old age, changes a freſh, florid countenance into a ſallow one ; heats and dries the body, breeds rheums and bad humours and is particularly injurious to thin people.

By going early *to* ſleep and early *from* it, we riſe refreſhed, lively and active. Sleeping late in the morning, keeps that excrementitious

excrementitious matter in the inteſtines which ought to be evacuated and thus occaſions obſtructions & noiſome vapors, which greatly offend the head, dull the ſenſes and are very pernicious to the whole body. If our neceſſities indeed oblige us to ſit up late, our ſupper ſhould be little, and we may make amends for it by laying an hour or two longer in the morning ; but let what will happen, we ſhould always be up by nine o'clock.

In order that ſleep may be peaceable and refreſhing, we ſhould be careful to go to bed with a free and quiet mind, and baniſh the thoughts of all manner of care and buſineſs. How often has a train of thinking diſturbed a man's reſt, and kept him awake the whole night ! The body and the mind is recruited in proportion to the ſoundneſs alſo of ſleep. The more we dream the leſs are we refreſhed. Although reſt is not complete at the beginning, it has a tendency to become ſo, during this ſtate of the body ; that is to a quiet mind, ſleep becomes ſounder and ſounder. When a man firſt falls a-ſleep, he dreams, toſſes and tumbles about ; gradually he becomes more quiet, and were we to awake him, he would

would not recollect that he had been dreaming at all, or he would tell us, he dreamed, but in a ſmall degree. During ſleep the original power appears to be ſo much accumulated, as to give a diſpoſition to action, both to the mind and body, from the ſlighteſt cauſe; ſleep then leaves us and we awake: that is, when the powers are recruited, the organs begin to be affected, and the man dreams afreſh; at laſt, outward objects ſenſibly affect him and he awakes. 'Tis then the mind is fitteſt for action; the judgement is then ſtronger, the imagination more lively and as the evening comes on, theſe powers are gradually diminiſhed, and require freſh ſleep to recruit them.

The next thing that falls under our conſideration, is the quantity of ſleep we take. This has been in ſome meaſure noticed; but it may not be unneceſſary to be a little more particular. It cannot indeed be determined how long we may ſleep; as in all other things, a mediocrity is beſt. Our ſleep ſhould be proportioned to our health, our age, the complexion and emptineſs or fulneſs of the ſtomach.

As the nutrition of the body is particu-

larly aſſiſted by ſleep, we ſhould ſleep, in general, till the food we take has performed its office ; that is, till what phyſicians call concoction is completed. This may be diſcerned on our awaking by the ſenſible lightneſs of the body, eſpecially the head ; the emptineſs of the ſtomach, and a certain deſire of evacuation, provided it is not unnaturally occaſioned. Heavineſs of the head and eyes, or a taſte of our laſt meal, ſignify that we have not ſlept a ſufficient length of time. In ſhort, ſix ſeven or eight hours is long enough for young perſons in health, but ſuch as are ſickly and weak require longer reſt, nine, ten or eleven hours. Children and old men require more ſleep, in general, than young or middle-aged perſons ; children, that their growth may the better be promoted, and old men, becauſe it leſſens the dryneſs of their conſtitution. The ſame reaſon holds good with lean people, to whom more ſleep is neceſſary than to ſuch as are fat: for ſleep moiſtens and refreſhes the whole ſyſtem. In a word, as immoderate ſleep, or ſleep taken at improper times weakens the natural heat, loads the head with vapours, detains the excre-

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ments longer than is wholeſome, makes men ſluggiſh and heavy-headed, deſtroys the memory and ſubjects them to the palſy, lethargy, &c. ſo too little ſleep dries up the conſtitution, dims the ſight, waſtes the ſpirits and deſtroys all the powers and faculties both of mind and body. It muſt be obſerved, that we ſhould go to bed upon a full ſtomach; that is, not go to reſt too ſoon after ſupper; but continue up an hour or two, till our food be half digeſted; if we are obliged to ſup late, we ſhould eat the leſs: for on account of the natural heat of the body retiring inwards during the time of ſleep, a full ſtomach will occaſion a ſuperfluity of vapours, and greatly offend the head. Beſides, great ſuppers are very apt to occaſion heart burn, which will of courſe deprive us of our reſt.

A matter accurs here; whether it be beneficial or not to have our bed warmed? Perſons in years, ſuch as are weak and thoſe who lead a tender and delicate courſe of life, do right to warm their beds, in cold and moiſt ſeaſons of the year; and that for two reaſons; that the body, on putting off our cloaths, may not be ſuddenly affected with the external cold; and as the inward

heat

heat of the body is much aſſiſted by the warmth of the bed, concoction will be forwarded and the ſuperfluous moiſture of the body be the better conſumed. But this cuſtom is unwholeſome to thoſe perſons who are healthful and ſtrong, becauſe it will very much weaken them.

When we ariſe in the morning we ſhould find it amply compenſate for our trouble, were we gently to rub our breaſts and ſides downward with our hands, and the reſt of our body more ſtrongly with flannel or a hot linen cloth, particularly our joints. Doing this will quicken the blood, ſtrengthen the parts and excite the natural heat. When riſen, we ſhould ſtretch ourſelves out, that the animal ſpirits may be dilated to the exterior parts of the body, walk a little up and down, that the remaining contents of the ſtomach may more ſpeedily deſcend; this done, we ſhould proceed to cleanſe our noſe, by blowing it; to clear our breaſt by expectoration, and to make every other neceſſary evacuation. We ſhould waſh and plunge our eyes in cold water, for this not only clears away the filth, but ſtrengthens and preſerves the ſight. The mouth ſhould be well cleanſed with the ſame,

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and the teeth rubbed with a dry coarſe cloth, after firſt ſcouring them with a ſage leaf, dipped in vinegar. This will purify the breath, and preſerves the teeth from foulneſs and decay: and laſt of all the head ſhould be combed, that the pores may be opened to expel ſuch vapours, as were not conſumed by ſleep.

The next thing to be mentioned is the ſalubrity of the place we ſleep in. A high room, dry, ſweet and well-aired, free from ſmoke and remote from noiſe, is the moſt wholeſome: neither ſhould our chamber be hot, for the ſpirits and natural heat of the body, which is drawn inwardly by ſleep, as before mentioned, will be counteracted by any extraordinary heat in the room; but it ſhould be moderately warm, and free from damps, either natural or artificial, ariſing from new plaiſtered walls, waſhing the floor or otherwiſe. It may not be amiſs here to mention the danger of ſleeping in the open air or on the ground, as many in the ſummer ſeaſon do. Thoſe whoſe ſtations in life oblige them to it, as ſoldiers, though for the preſent they eſcape the miſchief, are frequently afterwards made ſenſible of the injury, by aches, ſtiff-

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neſs or weakneſs of limbs, and many other infirmities that proceed from it.

Our beds may be ſoft, but ſhould not ſink in, as that will ſuck from the body, exhauſt and impair our ſtrength. A mattraſs upon a feather-bed is both eaſy and wholeſome. As bedding receives the vapours, and ſweaty moiſture of the body, we ſhould be careful that it is always clean, ſweet and well-aired; for if it is not purified by air or fire, it will contract an ill ſcent and become unwholeſome. If every one ought to be thus careful of the beds they conſtantly lie in themſelves, we may ſee how neceſſary it is that travellers ſhould be cautious how and where they ſleep. No bed-chamber ſhould be waſhed in cold, wet or foggy weather; ſweeping and bruſhing is ſufficient to keep it decent, and airing it in clear, dry days, by opening the windows, will prevent its becoming offenſive.

As to the nature of our covering at night, it ſhould be according to the ſeaſon of the year. The head ſhould be covered ſufficiently to prevent its taking cold, but not too warm, leſt it weaken it and haſten grey hairs; for if the vapours iſſuing from the

the brain are impeded in their paſſage, it will cauſe the hair to turn grey, much ſooner than it otherwiſe would.

With reſpect to our manner of laying; we may in a great meaſure conſult our own eaſe. The head ſhould be higher than any other part of the body; the bed from head to feet, ſhould be ſmooth and even, without any fall below the pillow, or hollow under the ſhoulders. Sleeping generally on the back is unwholeſome, as the humours of the head naturally fall by this means into the hinder part of the brain and may diſorder it, and the loins are thus more heated than they would otherwiſe be, and of courſe the urinary paſſages more ſubject to obſtructions. Perſons afflicted with the ſtone ſhould by no means ſleep on their backs. Sleeping with the back upwards may be occaſionally good for ſuch perſons as are troubled with wind and have a weak digeſtion, the bowels being thus kept ſo much the warmer; but to thoſe who have weak eyes it is pernicious, as a defluxion of humours may thus fall into them. The moſt wholeſome method of ſleeping is on the ſide, firſt on the left ſide, eſpecially to thoſe who go to bed be-

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fore they have digeſted their ſupper, as the food will in this caſe better deſcend to the bottom of the ſtomach; and then on the right, that the motion of the heart may be freeſt from preſſure. But the principal thing to render ſleep comfortable, is, as was hinted before, to compoſe the mind. If we lie down with roving, troubled thoughts, they will commonly call us up before it is fit to riſe, and our ſleep will not be placid or refreſhing. When we lay by our cloaths, therefore, let us lay aſide our buſineſs, care and thoughts, and let not a wandering fancy break our reſt.

It has often been doubted, whether it be good to ſleep with the mouth a little open. Some there are that altogether deny it; but to ſleep with the mouth open is certainly beneficial, and that, for theſe three reaſons: becauſe the breath paſſes more freely & the fuliginous fumes are better ſent forth than diſcuſſed. Hence it is that ſuch as ſleep with the mouth open, have a ſweet breath, whereas thoſe that ſleep with it ſhut, have generally an offenſive breath and foul teeth. The ſecond is, becauſe ſome bad moiſture may in ſleep paſs forth at the mouth, which if ſhut, would fall upon

upon the lungs and be prejudicial. The third reaſon is, becauſe owing to the deſcent of rheumes from the head, the free paſſage of the breath through the noſe may be impeded, and ſnorings, and offenſive routings enſue, that may diſturb us of our reſt, and awaken us.

But becauſe the tongue, palate and gums of ſuch as ſleep with their mouth open, are commonly afterwards very dry and covered with ſlimy matter, though in fact, thoſe who ſleep with their mouth ſhut are moſt ſubject to it, all perſons in the morning, ſhould waſh their mouths and teeth well and gargle their throats, and then every inconvenience is removed.

The only thing further to be enquired into, upon this ſubject, is whether ſweating at night be deſtructive to the conſtitution or not. Great ſweats are undoubtedly weakening, but light ſweats are a great benefit, for groſs humours are thereby diſſolved, wind is diſcuſſed, the blood is purified, the ſpirits are refreſhed, the cramp, palſy, gout, ſwelling of the joints and other parts, achs, numbneſs and heavineſs of the limbs are prevented, and conſequently the whole body better preſerved,

lively, and in health. But, this caution muſt be obſerved, that the body be not ſuddenly after it expoſed to the cold air. We will proceed now to,

Excretions or Evacuations.

All that the ſtomach receives is not fit to be retained ; our food, though ſtudiouſly choſen and temperately uſed, is not all converted into the ſubſtance of the body ; but ſome part of it is, to be ſeparated and ſent forth ; the reſt is to ſupply and nouriſh. This regular courſe being continued, the body thrives and is in good order ; but if that which ſhould be evacuated, be retained, or that which ought to be retained, be injuriouſly paſſed off, the regular œconomy is ſubverted and the conſtitution ſuffers and decays.

The general excretions of the body are the ſtool or *fæces* and the urine, and for eaſe and health they ought to be daily evacuated. If our habit be naturally lax, it is a happineſs, provided that laxity be not immoderate ; for ſuch perſons as are continually coſtive, and have ſeldom the benefit of nature, in the reſpect we are now talking of, are liable to many diſorders.

ders. The *fæces* retained longer than they ought, too often affect the head. dim the ſight, occaſion heavineſs, dullneſs, and a degree of fever. Tis neceſſary therefore they ſhould be daily evacuated. If this cannot naturally be obtained, the occaſional taking of a little lenitive electuary will be very neceſſary.

Seminal evacuations ought alſo to be moderate. The ſperm is a ſubſtance full of ſpirit, and if wilfully waſted, will hurt the conſtitution more than the loſs of forty times the quantity of blood. Immoderate venery is known to impair the ſtrength, hurt the ſight, conſume the ſpirits, and haſten on old age and death.

Cibo vel potus repletis, ſuperfluè evacuatis, ſive exercitatis, coitus interdicitur.

Tempus optimum eſt manè & poſt dormias.

Hyme & vere frequentius permittitur; æſtate parciùs.

Juvenes, ſanguinei & pituitoſi liberalius, parcius melancholici; parciſſimè bilioſi, ſenes emaciati.

Although it nas been an old ſaying, as fooliſh as common, *Quie medicè vivit, miſerè vivit;* he that lives by rule, lives miſerably; yet experience teaches us the contrary,

contrary, and grounded upon pure reaſon and the contents of theſe pages: that he who pays no regard to the injunctions of nature, both ſhortens his life and deſtroys the comforts of it. In ſhort, would you ſee without ſpectacles, go without crutches or the help of a ſtick; would you lie eaſy in your bed, not telling the clock or wiſhing for day; would you eat with an appetite and be *young* in ſtrength when you are *old* in years: in fact, would you enjoy yourſelf, and every thing about you, and lengthen your life to the lateſt period; exerciſe your reaſon and attend to the advice here given, for

Qui medicè vivit, ſine medicis diu vivet.

He that lives by rule and wholeſome precepts, is a phyſician to himſelf, and needs not the help of others.

Whence it is that ſome who are very hungry and have good appetites, eat little; while others having little appetites, eat much?

THIS proceeds from the difference of ſtomachs. A man with a ſmall ſtomach, that will hold but little, will be ſatisfied

tisfied with a ſmall quantity of food; whereas one, with a large ſtomach, though he ſeems not hungry, yet when he comes to his meal, will eat plentifully.

A ſtomach naturally cold, will crave more than it can digeſt. On the contrary, a hot ſtomach has but little appetite, for heat deſtroys it. Hence it appears, that a perſon, with a large capacious ſtomach, naturally cold, will devour an immoderate quantity of food: while one, with a ſmall ſtomach, naturally hot, will at his meals eat little or nothing.

Whence it is, that the accuſtomed hour of eating being paſſed, we often loſe our appetite.

BECAUSE the ſtomach being empty and hungry, draws up from the inteſtines putrid vapours, which deſtroy the appetite. And as theſe vapours not only annoy the ſtomach, but the head and ſpirits, ſuch as are deſirous of health, ſhould at their uſual hours of meals, if they find a craving for food, always indulge it by eating a little.

Cautions

Cautions to be obſerved in the uſe of drinking.

THE neceſſity and uſe of drinking is to preſerve natural moiſture, and to make good a mixture and diſtribution of meat, that it may digeſt the better. For theſe reaſons it ſhould be moderately taken at meals. Sundry little draughts are more wholeſome than two or three large ones. Large draughts at meals makes the food fluctuate in the ſtomach. This with its weakening and relaxing the coats of the ſtomach, deſtroys digeſtion. Great draughts alſo leſſen the natural heat of the ſtomach, drives the food down too haſtily, and corrupts the whole body with too great moiſture and crudity.

It will not be improper to mention here, that ſuch perſons as accuſtom themſelves to taking ſoup the firſt thing at a meal, would do well to take it as hot as they can, as the heat will be very comfortable to the ſtomach. Taken lukewarm it would ſoon prove nauſeous, though never ſo good. The drinking cold beer after hot ſoup or broth is an abſurd and hurtful cuſtom, for it counteracts the heat of the ſoup, deſtroys the tone of the ſtomach, and does miſchief.

Drinking

Drinking after meals, unleſs we are dry, is a pernicious cuſtom, eſpecially if we drink during digeſtion is taking place, as it deſtroys the natural heat that is working in the ſtomach. But after the food is paſſed off from the ſtomach, that is, three or four hours after the meal, a few glaſſes of wine, to a perſon in years, or of a cold conſtitution is beneficial ; as it will cleanſe the ſtomach of the relicks of the food, and create a readier diſtribution of the nutritive part of it, to the different parts of the body.

The utility of taking phyſic in the ſpring.

THE winter by its moiſture naturally fills the body with crude excrementitious humours. and by its coldneſs thickens and ſtagnates the ſame ; and the approaching ſpring working on thoſe humours, rarifying and diſſolving them, they are apt to fluctuate and putrify in the body, which unleſs by the force of nature, or the aſſiſtance of medicine, are often the cauſe of ſickneſs.

Beſides the uncertainty of the weather in ſpring, its ſudden alterations from hot to cold, and from dry to moiſt, will frequently

quently produce feveriſh diſorders, according to the diſpoſition of the matter congealed as it were in the body during the preceeding winter. Hence it happens, that people die more frequently in the ſpring than in any other ſeaſon of the year.

Such perſons, therefore, as are deſirous to prevent theſe ill effects, ſhould take a doſe or two of purging phyſick; eſpecially thoſe who lead a ſedentary life: and the beginning of the ſpring is generally, the beſt time for this ſalutary precaution.

It is not neceſſary in general to take phyſic, by way of prevention, in the fall or autumn of the year.

Whether the loſing of blood in the ſpring, be neceſſary for the preſervation of the health?

FOR ſuch as are of a ſanguine conſtitution, phlethoric and full of blood, it is beneficial, to prevent ſuch dangers as a too great fullneſs of blood may occaſion; but it is far better to leſſen their blood by a ſparing and cooling diet, than by opening a vein. For blood being the very eſſence of our life, diminiſhing its quantity frequently, weakens the ſpirits and the conſtitution, and haſtens death. *Whether*

Whether the occaſional uſe of cordials be prejudicial to the conſtitution?

WHEN uſed medicinally, in caſe of neceſſity, as when the ſtomach is weak, or lapſed by cold, a cordial may comfort and refreſh it. But the immoderate, daily, or unreaſonable uſe of ſtrong liquors muſt be pernicious. Although they may pleaſe the palate, and ſometimes not offend, but warm and refreſh the ſtomach; yet, in length of time, from daily uſe, and perhaps in an improper ſeaſon, they muſt deſtroy the temperature of the body, burn up the blood, and produce very dangerous ſymptoms.

Some obſervations upon drunkenneſs.

IT is a maxim eſtabliſhed upon good reaſon, that *every thing exceeding its juſt bounds, is hurtful to nature.* The beſt of things are not excepted in this general rule. Even the neceſſary *ſupports* of life, if not qualified and made wholeſome by this corrective, may prove the *procurers* of death.

Drink, when carried to exceſs, is no longer a refreſhment, to moiſten or water the thirſty body; nor a preſervative; but

becomes

becomes an inundation, to drown and ſuffocate the vital powers, and is the cauſe of ſickneſs. It puts a man out of a ſtate of health, and diſorders him ſo much, that we may conſider him as going to die.

It has been ſaid by ſome ancient phyſicians, that to be drunk, once a month, is good phyſic and wholeſome, as by overcharging the ſtomach it provokes vomiting and ſo carries off what may be there lodged, that would otherwiſe breed diſeaſe; but this a poor plea for drunkenneſs; that for the gaining one ſuppoſed benefit, (which might be obtained by other means) we ſhould run the riſk of bringing on twenty diſorders.

Drunkenneſs is certainly a diſeaſe, for it has all the requiſites to conſtitute a diſeaſe, and is far diſtant from a ſtate of health. For if health be the free and regular diſcharge of the functions of the body and mind, and ſickneſs a weak and imperfect diſcharge of thoſe functions; then ebriety may properly be ſaid to be a diſeaſe or ſickneſs; it having the ſymptoms of an acute diſeaſe; for during the time of drunkenneſs and ſome time after, few of the faculties perform their office rightly.

If

If we examine the intellectual faculties, we ſhall find the reaſon gone, the memory loſt or bewildered, and the will ſtrangely perverted.

If we look into the ſenſitive faculties they are alſo diſordered; their functions impeded, or very defectively performed. The eyes do not ſee well, the ears hear well, nor the palate reliſh, &c. The ſpeech faulters and is imperfect; the ſtomach throws up its contents, or naufeates: the legs fail, and the whole man is out of order.

Now, according to theſe ſymptoms in other diſeaſes, we ſhould judge the patient not likely to live, or we ſhould deem his recovery very difficult. Surely then drunkenneſs, for the time it laſts, muſt be a very great diſeaſe. But becauſe it does not in general prove mortal, or continue long, it is thought little or nothing of, and is conſidered as a trival matter, that will cure itſelf.

But it may be aſked, why drunkenneſs is not uſually mortal, ſince the ſame ſymptoms in other diſeaſes would be accounted ſo?

To

To this we anſwer ; all the hopes we have that a drunken man ſhould live ; is firſt, becauſe common experience ſhews that drunkenneſs is not mortal ; ſecondly, from the nature of the cauſe, (ſtrong drink) which though it rage and ſtrangely diſcompoſe the man for a time, yet it laſts not long, nor is it commonly mortal. The inebriating ſpirits of the liquor, flowing in ſo faſt and joining with the natural ſpirits of the man, occaſions a tide, ſo high as to overflow all the banks and bounds of order ; but theſe adventitious ſpirits are ſo amicable and friendly to our bodies, in their own nature, as not to be equally deadly injurious, with that which is not ſo familiar. Beſides, their being ſo very volatile, light, and active nature, much ſooner recovers herſelf, than if the morbific matter were more ſolid, ponderous, and fixed. And, further.

Thoſe bad ſymptoms in other diſeaſes are more to be feared, becauſe they depend, perhaps. upon malignant cauſes ; ſuch as, by time, may be rooted on the conſtitution, or from the defection of ſome principal part ; but the ſtorm ariſing from drunkenneſs, as it is ſuddenly raiſed, ſo commonly it ſoon abates. But

But though drunkenneſs be not mortal, nor the danger, perhaps great for the preſent; yet drunken bouts frequently repeated, their relicts will accumulate, weaken nature, and lay the foundation of many chronic diſeaſes. Nor can it be expected otherwiſe; ſo that we may juſtly conclude from the manifeſt irregular actions which appear to us externally, that the internal functions and their motions are ſtrangely diſordered: for outward madneſs proceeds from inward impulſes and diſordered motions of the faculties; which general diſturbance muſt of courſe overturn the œconomy of nature, and conſequently ruin the whole ſyſtem.

The ill effects ariſing from intoxication, are a changing of the natural tone of the ſtomach, a deſtruction of its digeſtive powers, and degeneration of the nutritive part of our food. Common experience tells us, that, after a drunken debauch, the ſtomach loſes its appetite, and readineſs of digeſtion, and, of courſe, nauſea, belching, and thirſt enſue.

Great drinkers generally acquire an unwholſome corpulency of body, or a lean conſumptive conſtitution; few of them

eſcape. So great a dependence is there upon the ſtomach that other parts cannot perform their duty, if this leading principal part be perverted and debauched.

Now that different habits of body ſhould ariſe from the ſame cauſe, is owing to the different diſpoſition of parts: for in ſome perſons, although the ſtomach be vitiated, yet the ſtrength of the ſubſequent digeſtions is ſo great, from the vigour of thoſe parts deſtined to ſuch offices, that they act ſtrenuouſly, though the matter on which they act be tranſmitted to them imperfect and degenerate, and do therefore keep the body plump and full, although the juices be foul and of a depraved nature.

Others, on the contrary; whoſe parts are not ſo ſtrong, loſe the benefit of nutrition, and fall away. Hence it is that by exceſſive drinking one man ſhall puff up, fill, and grow dropſical; while another pines away, and becomes conſumptive.

A third injury, and a common one ariſing from intemperate drinking, is a weakneſs of the nerves, brought on by diſorderly motions of the animal ſpirits. Thus

we

we ſee the inconveniences and miſchiefs attendant upon intemperance.

Drinking together is the pledge of friendſhip, and to be made drunk is the characteriſtic of a generous and hearty entertainment: for, moſt commonly, drinking concludes the feaſt. When nature has been tempted with varieties, and perhaps overcharged with them; the next folly is to diſturb and inebriate the ſpirits, vitiate the fermentation, and precipitate the food out of the ſtomach, by a flood of liquors, before digeſtion be finiſhed; that if you have eſcaped a ſurfeit by eating, you ſhall not go away without a miſchief by drinking; thus your good dinner is ſpoiled, and inſtead of being benefited by it you are injured, and your friends civility becomes your deſtruction.

But to the neceſſary uſes of drink appointed by nature we have invented others, and made it ſerve for pleaſure, for profit, for wantonneſs, and debauchery. So that drink, which ſhould help to ſupport, nouriſh and maintain the ſtrength and vigour of nature, is made an unhappy inſtrument to abuſe and injure the conſtitution.

However, as of drinking and drunken-

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neſs we have enumerated the evils, let us not be ſo partial as to ſmother the benefits.

Drinking advances the revenue of exciſe and cuſtom. Makes barley bear a good price, and helps the farmer to pay his rent. It keeps the phyſician and apothecary in employ, and doubtleſs adds conſiderably to their buſineſs; and is the ſupport of many a publican. But whether drinking ought to be promoted, to forward theſe advantages, with the deſtruction of health, the ſhortening of life, and the debauchery of the people: we leave the reader to judge.

OBSERVA-

OBSERVATIONS

ON THE

SMOAKING of TOBACCO.

TOBACCO is an herb of great antiquity and reputation among the Indians of America. It is alſo called *Nicotian*; but the name, Tobacco, was given it by the Spaniards, from an iſland on which it plentifully grew, and that of *Nicotian*, by the French, from one Nicot who firſt made them acquainted with it. The Indians call it *Petun* or *Petum*, which is indeed the beſt general name to give it, deriving it from the Latin word *Peto*, it being far fetched and much ſought after.

It is an herb, hot and dry in its nature, and, we believe of a deſtructive or venomous quality, for being taken any way into the body, it cauſes ſuch a diſturbance as to occaſion violent vomiting and purging, ſtupefying the ſenſes and benumbing every part. Theſe effects do not proceed from the temperature of the herb, but from the very eſſence of it. Common ex-

perience convinces us of its ſtupefying quality ; for ſmoaking to ſuch as are not uſed to it, will bring on a drunken-like lightneſs of the head, and if perſiſted in for any length of time, will occaſion a ſleepineſs of the whole ſyſtem. Now as the benumbing effect of a plant generally ariſes from the coldneſs of its quality, and as *Tobacco* is of a hot nature, it is evident that its ſleepy quality is not owing to its temperature but its very ſubſtance. However, there is in the juice of this herb a cleanſing and healing property, and it is very effectual in the cure of any freſh wound or old ſore.

If it be objected by thoſe who accuſtom themſelves to ſmoke or chew *tobacco*, that they find none of theſe injurous qualities I have mentioned, let it be conſidered, that it is owing tohabit, for by a conſtant uſe of it, they in time render themſelves inſenſible to its effects. in the ſame manner as the Turks do, with reſpect to their chewing opium.

The Indians, from whom we learned the manner of ſmoaking, accuſtomed themſelves to uſe *tobacco*, only when they were fatigued with labour or exerciſe, or when

when they wiſhed to foretell things to come. For the ſmoke's lulling them to ſleep and creating ſundry dreams ; on their awaking, they found themſelves refreſhed, and from their wandering thoughts during their inſenſibility, they fondly conceived, they could prognoſticate the event of any buſineſs they took in hand, or any matter of importance they wiſhed to know.

Their method of uſing it was this. Having dried the leaves, they caſt them on the coals, and with a cane received the ſmoke of them by the mouth and noſtrils till they fell into a drunken trance or ſleep, in which they continued three or four hours, according to the quantity of ſmoke they had taken in. After which they found themſelves lightened and refreſhed, and were able to return to their labour or exerciſe as before.

But we ſmoke *tobacco* for no ſuch purpoſe ; where one perſon takes a pipe medicinally, a hundred do it for pleaſure to paſs away the time. And as this is done indiſcriminately at all times and by all ages and conſtitutions, very often to the injury of health, a few obſervations upon this ſubject, can be no leſs profitable than pleaſing. Notwithſtanding

Notwithſtanding there is ſomething injurious in the nature of *tobacco*, and it leaves a diſagreeable ſmell and ſavour behind it; yet it is beneficial to ſuch perſons as are of a cold, moiſt conſtitution, and troubled with rheums, eſpecially in cold, damp weather, and when uſed moderately; for it will expel wind, diſſolve and diſſipate cold humours, raiſe the ſpirits, eaſe pains in the teeth, ſwelling of the gums and aches of the joints; and if the ſmoke be ſwallowed, it will ſpedily cure a ſurfeit, by cauſing a ſudden evacuation both upwards and downwards. But to ſuch as are not of a cold and moiſt conſtitution, nor affected with rheums, tho' it be only taken in at the mouth and immediately ejected, it is unwholeſome, as its heat will greatly affect the brain and diſturb the animal ſpirits. As to ſwallowing the ſmoke, unleſs medicinally, or by way of phyſic, it is abſolutely pernicious both to the ſtomach and the lungs, for it diſturbs digeſtion and tends to dry up the ſoft and ſpungy ſubſtance of the lungs. If any one therefore has habituated himſelf to this idle practice, let him inſtantly leave it off, for though he may find no great inconvenien-

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cies ariſing from it, while he is young and ſtrong, yet he may be aſſured, when it is too late to repair the injury, he will diſcover that it has ruined his conſtitution.

There are two or three cautions to be obſerved by thoſe who accuſtom themſelves to ſmoaking, which ſhall conclude the whole; one is, that in drawing the ſmoke, they take care that they ſuck it not ſuddenly into their throat or windpipe, as in ſuch caſe it will much offend and diſturb both the lungs and the mouth of the ſtomach. Another caution is in returning the ſmoke from the mouth, to take care it does not outwardly affect the eyes, for it will do them a great deal of injury. A third caution, not to go abroad into the air for half an hour after they quit their pipe, eſpecially if the ſeaſon be cold or damp, for the *tobacco* will open the pores of the head, and the ſudden acceſs of the cold air may do a great deal of miſchief. Hence we may ſee how idle and fooliſh ſuch perſons act, who walk or travel with a pipe in their mouths. In the laſt place, ſuch as are of a dry lean conſtitution ſhould ſhun the uſe of *tobacco* totally. for its drying nature muſt be deſtructive to ſuch habits.

THE END.

Elizabeth Howard's Book